

Railway Age

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FIRST HALF OF 1927—No. 3

NEW YORK—JANUARY 15, 1927—CHICAGO

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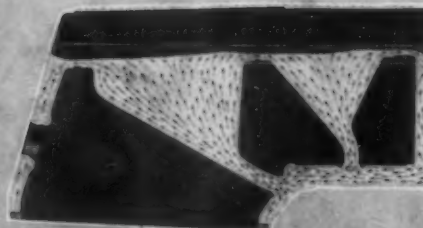
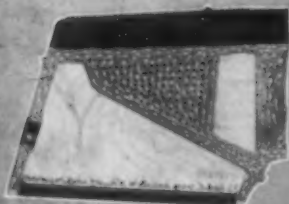
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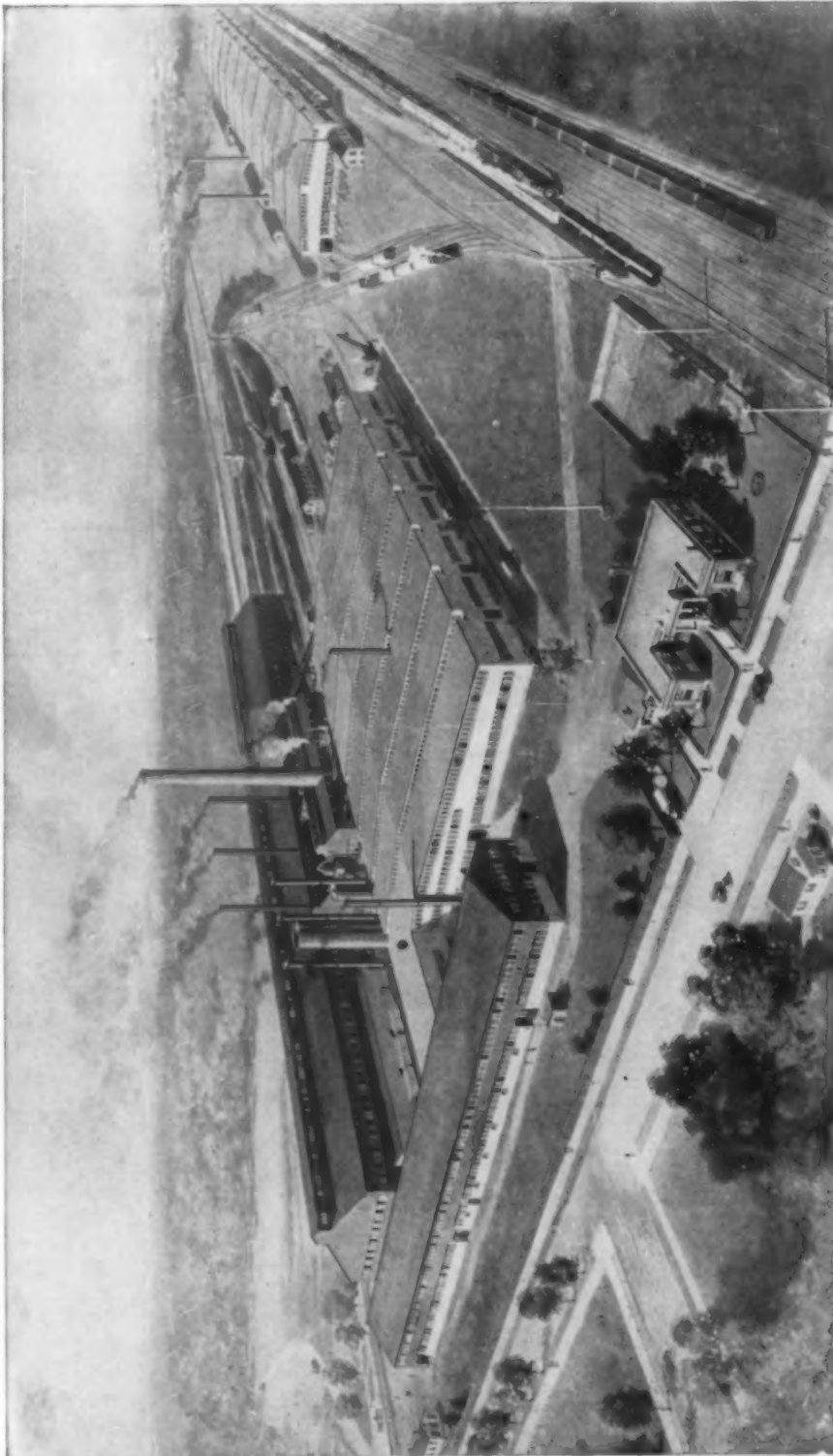
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Railway Age

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Big Four "Southwestern Ltd.," Leaving Cincinnati

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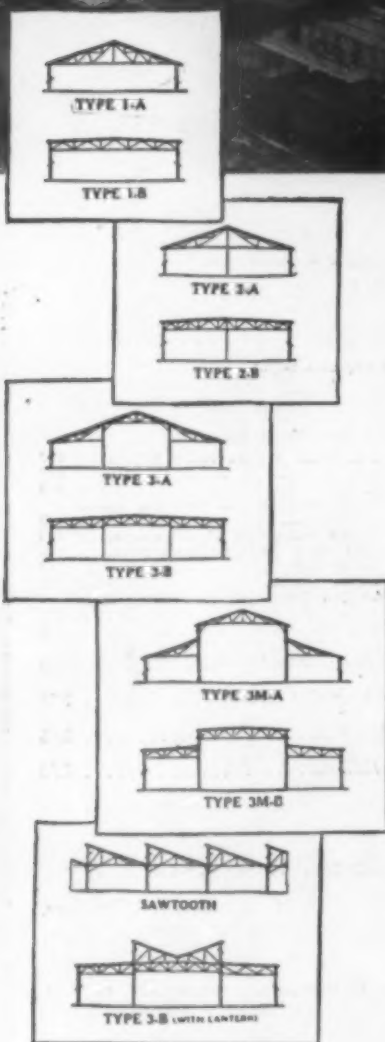
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Railway Age

Vol. 82, No. 3

January 15, 1927

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Remote Control Switch Saves Train Time

A RAILROAD officer recently reported that, "We completed the installation of a remote control switch yesterday, and the first freight train that used it, within an hour after it was placed in service, saved 41 minutes in getting to the next station." Many operating officers are familiar with locations where trains are required to stop and start on adverse grades when moving out of yards or junctions, and into and out of passing tracks. In some cases such conditions actually limit the maximum tonnage handled. Not infrequently the expenditure of a few thousand dollars for remote control switch machines and signal protection for train movements at one or two difficult locations on a division will reduce operating costs decidedly.

A Commissioner Hard to Suit

COMMISSIONER Eastman of the Interstate Commission, who was chairman of the commission during 1926 and a member of Division 4, that passes on most of the cases on the commission's finance docket, is a hard man to please. On December 28 the commission gave out four decisions in important finance cases, to all of which Chairman Eastman dissented. He objected to the proposal of the Alabama Great Southern for authentication and delivery of \$500,000 of 5 per cent bonds, to reimburse the treasury for capital expenditures, saying that the carrier is quite able to finance by the issue of stock. In the case in which the Atlantic Coast Line was authorized to issue \$13,756,500 of common stock at par he dissented on the ground that the company had not shown that the funds desired could not reasonably and appropriately be obtained by the issue of a lesser amount of stock. As the old stock was selling in the market at over 200 he thought the stockholders might be asked to pay more than par for the new distribution. To the decisions approving the plan of reorganization of the Georgia & Florida and the acquisition of control of the Atlanta, Birmingham & Coast by the Atlantic Coast Line he dissented without writing any separate opinions.

Gaging Mechanical Output

IT is not easy to measure the output of a locomotive repair shop, car shop or engine terminal, owing to the widely varying character of work handled under as widely divergent conditions. Locomotives and cars of all kinds and sizes are given all classes of repairs and service conditioning work. A large number of strictly manufacturing operations are carried on and charged to shop orders, this work amounting to 40 per cent of the

total shop output or more in some system shops. Repair facilities differ at various points. Physical limitations in the original layouts often govern. Grade and curve conditions and particularly the kind of boiler feed water available also affect in no uncertain way the cost of maintaining power on a given division or railroad. It makes a great difference whether fireboxes have to be renewed in 15 months, as happens in some bad water territory, or whether they can be run perhaps that number of years before renewal. In spite of the difficulty of taking due account of all the pertinent factors involved in shop output, it is vitally important that some gage for measuring relative shop and engine terminal efficiency be developed and used on each railroad, in order that a knowledge of actual performance may be available, that competition between different points may be stimulated and a desired goal set up. The goal is perhaps most accurately expressed in man-hours per locomotive overhauled, per car repaired, or per engine turned, but whatever form it takes, the goal should be set high. Railroad mechanical maintenance forces have that peculiarly human trait of putting forth no more effort than they think is expected of them.

Advertising Pays

THE railways as a whole probably spend as little for advertising, in proportion to the business that they do, as any other great selling industry. Probably they spend less. There are exceptions, to be sure, some railways being consistent and effective advertisers on a large scale. But compared with the number of railways who do not back up their direct selling efforts with adequate advertising, these exceptions are few. Other industries recognize that extensive advertising is a principal part of their sales efforts. There is no reason why the railways should fail to make advertising an equally important factor in the selling of the commodity that they manufacture—transportation. Most successful concerns would not consider sending their salesmen out to get business without adequate support in the form of advertising. Yet that is what many railways do. If the railways individually were without competition, advertising and other sales efforts might be less needed. But competition does exist, between the railways themselves and between the railways and other kinds of carriers. Intensive modern selling effort is essential if such competition is to be met and overcome. The railways have plenty of desirable products to advertise. Their freight service is excellent, by far the best it has ever been. So is their passenger service. By their efforts alone, the traffic departments cannot hope to develop to the fullest extent the market for their transportation service. Effective and extensive advertising will give them the assistance that they need in this day of modern salesmanship. The railways should not be parsimonious when they fix the amounts to be spent next

year for the selling of their service. They should not ignore the lesson that is contained in the experience of other sellers of commodities that the public needs and should have. That lesson is, that advertising pays.

Our Fanciful Railway Maps

H. L. MENCKEN, among other things editor of the *American Mercury*, has a well-trained faculty for finding fault. He is probably our busiest viewer with scorn. But occasionally he directs his attacks at something needing such attention. He hit upon one such thing in a recent syndicated newspaper article. Referring to railroad maps of the sort published in time tables, he expressed himself with characteristic impatience at their lack of concern for our national geography. It is this lack of concern which blithely connects with simple, straight lines the cities served by the road issuing the time-table, transplanting them, with a great disregard for propriety, many miles from the sites selected by their founders. The average railway time-table map, which depicts the home road as a beautiful array of tangents, while good-humoredly showing the lines of competitors as aimlessly meandering curves, may provide knowing patrons with amusement, but it scarcely fools any of them into thinking that the shortest distance between two points—any two points—is the Z., Y. & X. Railway, whose time-table they are examining. The railways have been publishing such maps for years. We doubt if they have a good reason for taking such liberties with geography. It would seem that railway map publishers might well get back to nature.

Traffic Considerations and the Engineer

ATTENTION has been directed in these columns to the unfortunate effects resulting from the pressure of traffic considerations in the purchase of materials and supplies by the railroads. Such comments as have been made thus far have been concerned primarily with the effect which such influences have had in upsetting the endeavors of railway officers to obtain the most suitable materials or devices for given purposes and the efforts of manufacturers to establish a reputation for their products through long years of satisfactory service. There is, however another phase of this influence to which attention has not been drawn, namely, to its effect in the case of materials incorporated in fixed structures such as bridges and buildings. Construction projects are approved on the basis of estimates founded on the use of certain materials selected after careful study or service experience. Designs are made to meet the requirements of these products or others of a similar nature or comparable quality. Specifications are prepared, bids are received and contracts awarded, all on the basis of certain materials or their substantial equivalents. Then sometimes traffic considerations demand that another material, varying as to dimensions, unlike as to quality and different as to cost, be substituted for that upon which the design, specifications and bids have been founded. Insistence on such a substitution not infrequently calls for drastic changes of design and so seriously upsets the basis of bids as to introduce complicated contractual relations. It is true that modern design and construction practices are so exacting as to develop men of a technical rather than a commercial point of view. However, there probably are few railway engineers who do

not fully realize the commercial aspect of railway transportation. Most of them are glad to co-operate in encouraging traffic if they are given a fair opportunity to do so. They cannot, however, be expected to receive with favor proposals for a substitution of devices or materials at a time when a change can only be made at a serious sacrifice.

Fuel Saving by Railways

IMPROVED locomotives and better supervision of the use of fuel have had effects upon the consumption of coal by the railways which, when considered cumulatively, seem remarkable. The carriers made a new high record of fuel economy last year. In road freight service the consumption of coal in proportion to the gross ton-miles of service rendered was about 21 per cent less than in 1920 and in passenger service about 16 per cent less in proportion to miles traveled by passenger cars. Allowing for differences in the amount of freight and passenger service rendered, the increase in the efficiency in the use of fuel between 1920 and 1923 saved about 8,100,000 tons of coal in the latter year. In 1924 the saving increased to about 16,150,000 tons, in 1925 to about 24,500,000 tons, and in 1926 to about 29,000,000 tons. These figures relate to savings in road service only, and do not include those made in switching service or stationary power plants. The coal bill of the railways for the operation of freight and passenger trains in 1926 was approximately \$75,000,000 less than it would have been if they had used fuel with only the same efficiency as in 1920. The annual saving of coal in railway train service accomplished by the increase in the efficiency of its use during the last six years is now equivalent to about a sixteen weeks' supply for train service, and to about a three weeks' supply of bituminous for the needs of the entire nation.

The Railway Patrons' Interest in Unremunerative Service

EVERY service which public authority and opinion compels railways to give that does not pay for itself and yield a reasonable return is a tax on the patrons who do pay adequately for what they receive. Grade crossing elimination largely at railroad expense, enforced urban terminal improvements of a decorative character, i.e., frills, unprofitable trains and lines which the public insists be retained—all the myriad of compulsions and taboos which are the price the railroads pay for being public utility corporations—all these have to be met by Smith and Jones and Brown who pay the freight and the passenger charges. No one can deny the obligation of the railroads to take "some of the skimmed milk with the cream," but there must be a commonsense line of demarcation somewhere if the paying patrons are to be charged justly. Those railroad patrons who clamor for reduced rates and fares could not possibly do anything better to secure their goal than to fight diligently and continuously to reduce the number and variety of instances in which railroads are required to give something for nothing. Do motorists demand grade crossing elimination? Then see to it that the railroad is asked to pay only a fair share of the cost. Do suburban communities want increased service, new equipment and beautiful stations? Then let the advocates pay for these improvements—there is no net revenue in any of them

for the railroads. Does the railroad seek to curtail unremunerative passenger service? Then lend them your voice in securing the necessary authority. Are railroads seeking permits to operate buses in order to reduce operating costs? Then let the authorities hear what your opinion is. As long as railroads continue in business they must earn a return sufficiently attractive to keep capital in the enterprise. Therefore, the larger the unremunerative expenditures they are forced to make, the greater must be their charges on revenue traffic.

Contrasts in Growth of Freight Business

THE freight statistics of the railways in 1926, when compared with those for other years of record-breaking freight movement, reflect remarkable differences in the industrial and commercial development that has occurred in different parts of the country within recent years. Bituminous coal is the largest single item of freight business, and the differences that have existed for some years in the wages paid in union and non-union mines have had remarkable effects upon business conditions in different parts of the country and on railway traffic. These effects are of unusual interest just now when another great struggle over the wages of union miners apparently is near.

Recent reports covering coal shipments for the entire year 1926 show they exceeded those of any previous year excepting 1918, and were almost exactly the same as in that year. It was possible to make them as large as they were in 1918 only because, owing to the pressing need for coal in the war industries, it was given priority over most other kinds of traffic, resulting in actual restriction and reduction of the movement of some of these other kinds of traffic.

Where most of the coal originated in 1926, however, was widely different from what it was in 1918, 1920, or even 1923. Most of the large non-union coal mines are located in the Pocahontas territory. The effect of the vast shifting of production from the union to the non-union mines is illustrated by the fact that the freight business of the railways in the Pocahontas Region in 1926 was more than 50 per cent greater than in 1920 and more than 40 per cent greater than in 1923.

It is not merely in this region, however, that there has been a very large increase of freight business. In the rest of the southeast it was about 11 per cent greater than in 1923 and about 21 per cent greater than in 1920. These figures reflect the remarkable industrial and commercial progress that has been made in the south since the war. When the figures for the Pocahontas Region and other roads in the southeastern district are combined, they show an increase in traffic for all of them of 21 per cent since 1923 and 31 per cent since 1920.

The facts regarding traffic development in the eastern and western districts present a strong contrast to those for the southeast. The eastern lines handled their maximum traffic in 1923. Their freight business in 1926 was about 2½ per cent greater than in 1920, but almost 3 per cent less than in 1923. Most of the union coal mines are located in eastern territory, and the failure of the traffic of the eastern lines to grow more undoubtedly to a large extent reflects the shifting of coal production from union to non-union mines.

The railways of the western district handled less freight business than in 1920 in every year until 1926,

when they finally succeeded in slightly exceeding their previous 1920 high record. Neither the northwestern nor central western roads had as much traffic, however, as in 1920, the entire increase in the western district during the last six years having been in the southwest—another illustration of the comparatively great prosperity of the southern part of the country.

The above figures regarding increases of traffic in different parts of the country since 1920 present a striking contrast to those for the decade preceding that year. In the ten years ending with 1920 the freight business of the eastern roads increased 46 per cent, that of the southern roads (including the Pocahontas lines) 86 per cent, and that of the western lines 82 per cent. It was natural that during that decade industry, commerce and railway traffic should increase at a relatively lower rate in eastern territory than in the other less densely populated and developed parts of the country. The really striking contrast is presented by the comparative growth of freight business in the south and in the west before and since 1920. To the 86 per cent increase in freight business in the ten years ending with 1920 the southern roads have added since then an increase of over 30 per cent, while to a traffic that increased 82 per cent in the ten years ending with 1920, the western roads have since added a freight business of only about 2 per cent.

To a large extent the failure of the traffic of the western roads to grow more has been due to the increasingly effective competition of the Panama canal. Their freight business showed a substantial increase in 1926 over 1925, however, and there are indications that the development of western territory may not in future lag so far behind that of southern territory as it has for some years.

An Unfortunate Appointment

THE hearings before the Senate committee on interstate commerce have amply confirmed the impression that the appointment of Cyrus E. Woods is one of the worst ever made to the Interstate Commerce Commission and that a decision to that effect ought not to be left to the political alignments of the Senate. The President has been very poorly advised but he still has an opportunity, by withdrawing the nomination and thereby tacitly confessing an error, to display a more exact sense of fairness than is to be expected from the Senate.

It is not in the least necessary to believe that Mr. Woods would be influenced by his connection with the Pittsburgh Coal Company many years ago or by his present holding of a small stock interest in that company or that he personally was in any way connected with any conspiracy to pack the commission. It is not even necessary to criticize Mr. Woods in any way, unless it be for allowing his name to remain before the Senate.

Senator David A. Reed of Pennsylvania, his chief public sponsor for the office, has himself made the appointment an impossible one, if any degree of confidence in the commission is to be preserved, by the direct relation which he has established between the appointment of Mr. Woods at this time in place of Mr. Cox and his own denunciation of the Interstate Commerce Commission for not having co-operated with the plans of the Pennsylvania coal interests to meet the increasing competition of the West Virginia and other Southern coal districts. It is still possible for many to believe that

Mr. Woods himself is an honorable gentleman and an able lawyer, if not conspicuously qualified by experience for the work of the commission, or that Senator Reed was looking more to future rate cases in which Pennsylvania interests might be involved than to the immediately pending case instituted by a company with which Mr. Woods was formerly connected, but Senator Reed's own expressed ideas as to the functions of the Interstate Commerce Commission are so crude that he has no right to expect anything but suspicion of any appointment suggested by him at this time.

Because a national commission, supposed to view rate adjustments from a broader standpoint than that of local interests, has failed to agree with the Pennsylvania coal operators, Senator Reed has told the world that it was because the commission does not understand Pennsylvania conditions, because it was composed of men from other states who care nothing about Pennsylvania, but "speak for the regions from which they come," and that he proposed to make a fight vigorous enough to place a "representative" of Pennsylvania on the commission to correct the conditions of which he complains.

In effect Mr. Reed has said that freight rates should be determined, not by an impartial body of men who have given close study to all the facts in a particular case, and their relation to other cases, but by the Senators who are able to play the most effective politics in getting their candidates appointed by the President.

If Senator Reed has such a misconception of the proper function of the commission, which was never expected to be a "representative body," as to suggest that Pennsylvania should own one-eleventh of the commission, he should be the last to be surprised if others are suspicious that any candidate he proposes has "strings" attached to him, or if the public should be suspicious of a commission so constituted.

Containers, Loading, Stowing and Bracing Need Improvement

THE application of specialization to bring about an improvement in containers, packing, stowing and bracing, seems inevitable if a further reduction of freight claims paid by the railroads is to be effected. Since 1920 payments on the railroads of the United States have shown a marked decrease until the estimated amount paid in 1926 has been reduced almost to the amount paid in 1917, which is the lowest amount in the last ten years, although the carloadings were considerably larger in 1926 than in 1917. The claims paid in 1917 were \$35,079,000; in 1920, \$119,833,000; in 1925, \$36,760,941; and in 1926 (estimated) \$36,000,000, while the number of cars loaded were: 1918, 44,592,089; 1920, 45,118,472; 1925, 51,177,962; and 1926 ending December 25, 53,309,644.

The narrowing down of the decrease in claim payments in the past few years indicates that the efficiency of handling merchandise on the part of the railroads is approaching a maximum and that any further improvement will be of less magnitude and will be reflected in a small reduction in claim payments. Attention must therefore be directed toward another field.

Handling of Merchandise to Be Improved

This new field should be the improvement of containers, packing, stowing and bracing, as is evidenced by the increasingly poor showing in claims paid on car-

load shipments which are loaded and stowed by the shipper without the railroad's supervision. The payments charged to carload shipments increased from 60.5 per cent of the total claims paid in 1921 to 73.2 per cent in 1925, while payments due to damage increased from 48.6 per cent of the total in 1921 to 64.6 per cent in 1925. In contrast, the payments on less-than-carload shipments or those loaded, stowed and braced by the railroads, decreased from 29.5 per cent of the total in 1921 to 26.8 per cent in 1925, while the proportion of the account charged to loss decreased from 40.6 per cent in 1921, to 24.1 per cent in 1925.

Containers, packing, stowing and bracing must be improved and as a considerable percentage of carload shipments are loaded and unloaded by the shipper it is largely his problem. However, the carrier suffers as a result of the poor methods employed and it is to his advantage to assist the shipper in the development of efficient practices. This can best be done by making certain of the freight claim representatives of the individual railroads specialists who will study and develop proper containers, packing, stowing and bracing. Experience has shown that a specialist can more readily recognize poor methods and is more capable of suggesting improvements. This is supported by the following examples which also show the advantages of proper containers, packing, stowing and bracing.

Efficient Methods Have Been Adopted

Flour and mill product claims were reduced from \$3,055,335 in 1921 to \$846,463 in 1925, due to a great extent to an improved method of loading known as the "key system of sack loading." This practice was recommended by the Western Weighing and Inspection Bureau in 1920 but did not come into general use on the railways of the United States until 1922. The sugar interests recognized the value of this method and immediately used it and the practice helped to reduce the claims paid them by the railroads from \$1,991,880 in 1921 to \$486,822 in 1925.

During the past two years several types of improved egg containers have been developed by container companies and the effect has been reflected in claims estimated to be only \$620,000 in 1926 as compared with \$671,512 in 1925 and \$1,073,941 in 1921. It is believed that if eggs are properly packed and stowed claim payments can be reduced from an average of \$10 per car to \$1.

Furniture Shipments Need Attention

There is considerable room for improvement in new furniture containers and the packing, stowing and bracing of this type of merchandise. The estimated claims paid during 1926 on both carload and less-than-carload shipments amounted to \$2,200,000, as compared with \$2,141,000 in 1925. The records of a railroad which handles a large amount of furniture show that certain companies continuously have large claims which result usually from poor containers or improper loading, stowing or bracing. In one case a radio manufacturer experienced broken legs on 20 per cent of the shipments of a certain type of radio cabinet. A container expert was sent to investigate and found that the design of the console radio had been changed but the construction of the crate had not been corrected. The addition of a ¼-in. strip of wood at the bottom of the crate to distribute the weight of the console eliminated damage. Further significance is reflected in the records of another railroad which show that of 250 cars of furniture received at a certain point, the heaviest damage was on the cars loaded by a forwarding company and for the first 10 months the average damage per car amounted to \$100.

Farmers and Railroads

A "BUSINESS Men's Commission on Agriculture" has been created by the National Industrial Conference Board and the Chamber of Commerce of the United States. Its purpose is to conduct hearings and investigations regarding the condition of agriculture and then formulate a policy of co-operation by all interested groups to "protect the profound national interest which is at stake in our agricultural development." The chairman of the commission is Charles Nagel of St. Louis, formerly secretary of Commerce and Labor. It has ten members selected from important branches of industry, transportation, commerce and finance. The railroads are ably represented on it by E. N. Brown, chairman of the St. Louis-San Francisco and chairman of the Executive committee of the Rock Island.

The railways have a peculiar interest in any movement to ascertain and improve the condition of agriculture. Farm products afford a large part of freight business, and the things bought by farmers constitute another large part of it.

The condition of agriculture generally has been unsatisfactory for some years. This has been indicated partly by the widespread complaints of the farmers and their spokesmen. Their complaints alone would not have been convincing that there was anything wrong that the industry itself could not remedy, but that the relations between industry and agriculture have been out of balance has been constantly indicated by the post-war relations between the average prices of farm products and those of other commodities. As compared with pre-war relations, the prices of farm products generally since 1920 have been lower than those of other commodities indicating a decline in the farmers' purchasing power. The conclusion that farmers' incomes and purchasing power actually have declined as compared with those of most other classes of persons has been reached by the Industrial Conference Board and other impartial investigators that have studied the subject. This decline in the farmers' purchasing power undoubtedly was one of the principal reasons why the freight business of the western lines was less in every year until 1926 than it was in 1920.

When the farmers suffer adversity the railways do not feel the effects of it merely on their traffic. Agricultural adversity always influences railway regulation. The farmer buys many things besides railway transportation, but the prices he must pay for commodities are not subject to government regulation. The railway rates he pays are. Therefore, while he cannot effectively attack commodity prices, he is likely to attack railway rates, and with tangible results. Measured by pre-war standards the freight rates of the western lines are relatively lower than farm prices. There can be no doubt that they have been put and kept on their present basis largely because of western agricultural conditions. In consequence, these conditions have adversely affected railway earnings, not only by restricting the available traffic, but also by restricting the rates the railways have been allowed to charge for handling it.

Unfavorable conditions in agriculture always have and probably always will do the railways more harm directly and indirectly than almost any other industry with which the farmers do business. Therefore, in their selfish interest, the railways should support any movement that seems to give real promise of bettering agricultural conditions. The railways already have done more than any other industry to help farming. Their agricultural development services distribute literature, run poultry, dairy and other special trains, provide the farmers with better breeding animals, and contribute in many other

ways toward promoting better farming. There still remains much that the railways can and should do.

Most farmers are partly business men and partly working men. During recent years, while they have been discontented with their lot, many efforts have been made by politicians and labor leaders to get them to favor governmental measures of socialistic character which were rather plainly designed to benefit those who sponsored them rather than the farmers themselves. For example, they have been invited to help promote governmental measures to reduce and limit railway profits upon the theory that thus their railway rates would be reduced. The main effect of measures destructive of railway earning capacity would be to cripple transportation service, which would hurt the farmers more than any reduction of rates would help them.

The problem of the farmers, as a whole, is economic—that of getting higher prices for what they produce in proportion to the prices they have to pay for the things they must buy. Able business men co-operating with farm leaders should be able to find the solution for this problem, if anybody can, and to indicate to what extent it should be solved by governmental action and to what extent by other means.

Inspecting the "Main Tracker"

MODERN operating practice, particularly on the larger trunk line systems, has shown a tendency toward the classification of freight trains in a manner which makes it possible to operate solid trains from point of origin to destination without reclassification in intermediate yards. To handle long full tonnage freight trains over several divisions at considerably increased operating speeds has placed a burden on the mechanical department which must be met by improved methods. Increased efficiency in freight train operation can only be brought about by the handling of freight car maintenance and inspection in such a manner as to reduce to a minimum the delays to trains enroute caused by equipment failures. Present methods of terminal yard inspection quite often involve the cutting out of a car from a train in order to place it on the repair track for light repairs.

Realizing the possibilities of making light repairs to cars in a train without the necessity of cutting them out, A. J. Krueger, master car builder, Nickel Plate Road, in speaking at the November meeting of the Cleveland Steam Railway Club (page 889 of our November 6 issue) has suggested a radically different method of terminal yard operation wherein train inspection and repairs are handled coincidentally on special tracks by a single specialized force of inspectors and repair men, making it possible to pass a train through a terminal without the necessity of cutting out cars which may only need minor repairs. In suggesting this method Mr. Krueger has merely taken advantage of the value of the progressive system of freight car repairs and applied it to the inspection and repair work in terminal yards. Here appear to be unusual possibilities in the development of such a system. It is quite probable that the use of these methods will necessitate the holding of trains in terminal yards a slightly greater length of time than is required under present operating practice. It is also possible that it may necessitate a slight increase in force by the addition of a small number of better qualified men. On the other hand, the more thorough inspection which seems possible and the elimination of time lost by cutting out cars should result in a marked decrease of train delays enroute which are directly traceable to equipment failures.



General View of Classification Yard

Lackawanna Builds New Yard at East Binghamton, N. Y.

Removal of engine terminal and other facilities from Binghamton relieves congestion and expedites operation

By Clarence A. Dayton

Assistant Engineer, Delaware, Lackawanna & Western, Binghamton, N. Y.

THE opening of the new yard and engine terminal of the Delaware, Lackawanna & Western at East Binghamton, N. Y., has not only affected economies in operation by providing modern facilities but has also relieved congestion by removing the yard



Car Repair Shop and Repair Tracks

work from the city of Binghamton to a point where it is unhampered by urban conditions or the proximity of other railroads.

Binghamton is a city of approximately 75,000 inhabitants on the main line of the Lackawanna about midway between New York and Buffalo, and is the southern terminus of the Syracuse and Utica divisions of the

Lackawanna. In the city two other railroads lie north of and nearly parallel to the Lackawanna and as the old yard was located along the Syracuse and Utica divisions north of these railroads it was necessary to do a large amount of switching across them at grade to reach the yard, the transfer house and the city freight house, as well as to pick up and set out cars for the main line on side tracks adjacent to the main line at Court street. It was also necessary for all Syracuse and Utica division locomotives to cross these roads on their way to and from the engine terminal. The crossings with the other roads were protected by three interlocking plants, and these as well as the inadequacy of the sidings for modern trains, caused serious delays to freight movements. After a careful study of the situation it was decided to construct a new classification yard and engine terminal east of the Susquehanna river, located to the south of the main line where the road some time ago had acquired a large tract of land and erected a modern mechanical coaling plant, a water ash pit and a pumping plant.

The Yard

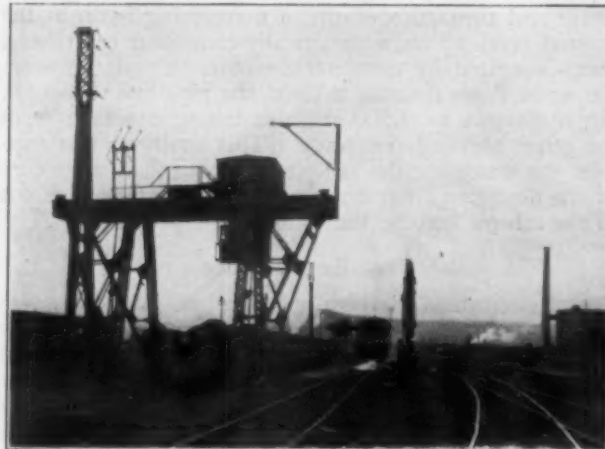
The yard consists of three westbound receiving tracks and three eastbound receiving tracks, with a total capacity of 607 cars, 17 classification tracks with a total capacity of 1,288 cars, a scale track and 6 repair tracks, besides the tracks to the coaling plant, ash pit, engine-house, power house and store room. A 30-car tail track is provided at each end of the classification yard for switching. All of the yard tracks were constructed with 13-ft. track centers. Creosoted ties, with tie plates, were used throughout.

An eastbound freight track is located along the south

side of the yard from the east end of the eastbound receiving tracks to a connection with the eastbound main track at the extreme easterly end of the yard, thus enabling eastbound trains whose engines require coal or other supplies or attention to pull into the receiving tracks, and then, when ready, to proceed over the running track without interfering with either main line movements or switching in the classification yard. The connection with the main track at the east end of the running track is a No. 20 turnout, allowing the trains to pull out without reducing speed since all main line connections are operated by an electro-pneumatic interlocking plant located near the west end of the classification yard which is also near the center of the yard activities. The interlocking plant, besides operating the main line and adjacent turnouts, also controls all main line movements for a distance of two miles and the movements over the crossing of the through freight track with the light engine thoroughfare track between the enginehouse and the ash pit, indications being given by color lights. Telephones are located at convenient points throughout the yard and connect with a loud speaker in the tower. The tower, of pleasing design, is constructed of reinforced concrete, with a green tile roof. A feature of the design is a horizontal dry joint through the walls, just below the ground level, which will allow the tower to be moved as a unit to another location if desired. A toilet is provided in the operating room, discharging into a small underground septic tank outside.

The yard office, located near the interlocking tower, is constructed of plain concrete with a concrete roof covered with slag roofing. Its dimensions are 32 ft. by 55 ft., providing ample room for a private office, a general office, toilet, locker and file rooms. A plain concrete building, 13 ft. by 43 ft., located near the yard office, serves as a locker and washroom for the yard men and switchmen. The entire yard is lighted at night by four groups of electric flood lights, one group being placed

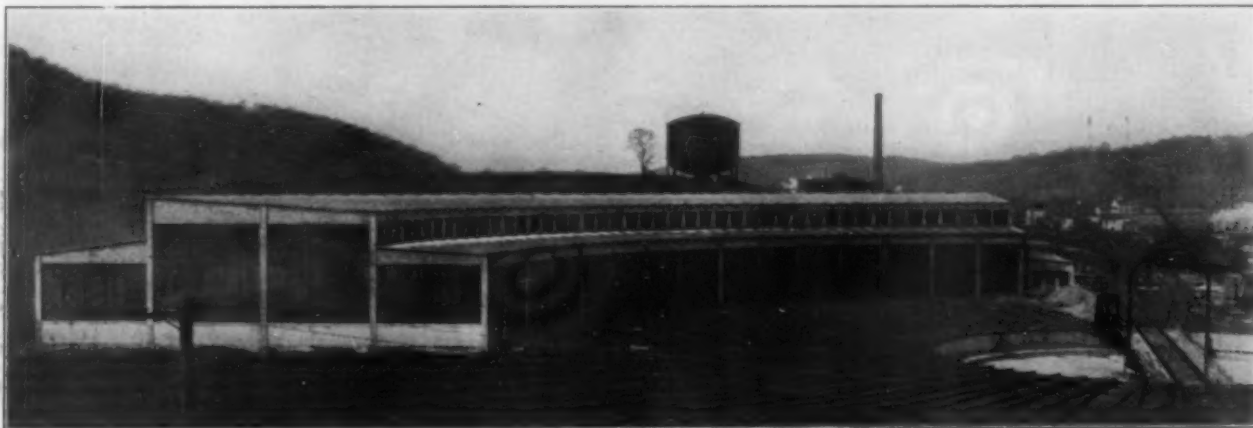
amounting to 50 ft. The total excavation amounted to 750,000 cu. yd., 60,000 cu. yd. of which were used for filling in and leveling low ground, while the remainder was hauled to a waste bank two miles distant. The excavation was made with two steam shovels, one with a 2½-yd. dipper and the other with a 5-yd. dipper, served by four trains of dump cars hauled by standard gage contractors' locomotives which



Ash Handling Facilities with Power House at Right

carried the material to the waste bank. With the exception of pockets of sand and hard pan the material was a hard clay which it was necessary to loosen by blasting to enable the steam shovels to handle it. Since this clay was impervious to water the excavation was carried two feet below the normal subgrade line and back-filled with cinders.

Advantage was taken of the topography to reduce



The Enginehouse and Locomotive Storage Tracks

on the coaling plant and the other three on 70-ft. steel towers so located as to equalize the light throughout the yard.

Grading and Drainage

The ground on which the yard was built lies between the Susquehanna river and high hills to the south and the grading consisted almost entirely in cutting back two large knolls or spurs of these hills which jutted out over the area to be occupied by the yard. The easterly of these knolls was cut back a distance of 250 ft. and the westerly one 600 ft., the maximum depth of cut

materially the excavation quantities by raising each track to the south, beginning with the westbound receiving tracks, 1¾ in. higher than the adjacent track to the north, making the tracks at the enginehouse 4.3 ft. higher than the main line. This introduces a grade of 0.3 per cent in the lead tracks but each yard track is level for its entire length.

In times of heavy rains the run-off from the hills toward the yard is very heavy and in addition there are numerous springs in the hills which keep many small streams flowing continually. To take care of this condition ditches were constructed over the tops of the

knolls and along the foot of the slopes which carry the water to large concrete pipes under the yard and thence into the Susquehanna river, the raising of the grade to the south providing sufficient fall for the flow of the water.

While the pipes under the yard take care of the surface drainage satisfactorily they are not at a sufficient depth to take the waste water and drainage from the turntable pit and the enginehouse pits. This water is discharged into a deep sump adjacent to the enginehouse and then pumped up to a receiving basin at the ground level by an automatically-controlled centrifugal pump operated by an electric motor. From the basin the water flows through a 10-in. tile pipe line to the ash pit, a distance of 1,500 ft., also taking drainage from the other buildings en route. This drainage line supplies the water for the ash pit and more than takes care of the depletion from evaporation, an overflow pipe out of the ash pit keeping the water at the proper level.

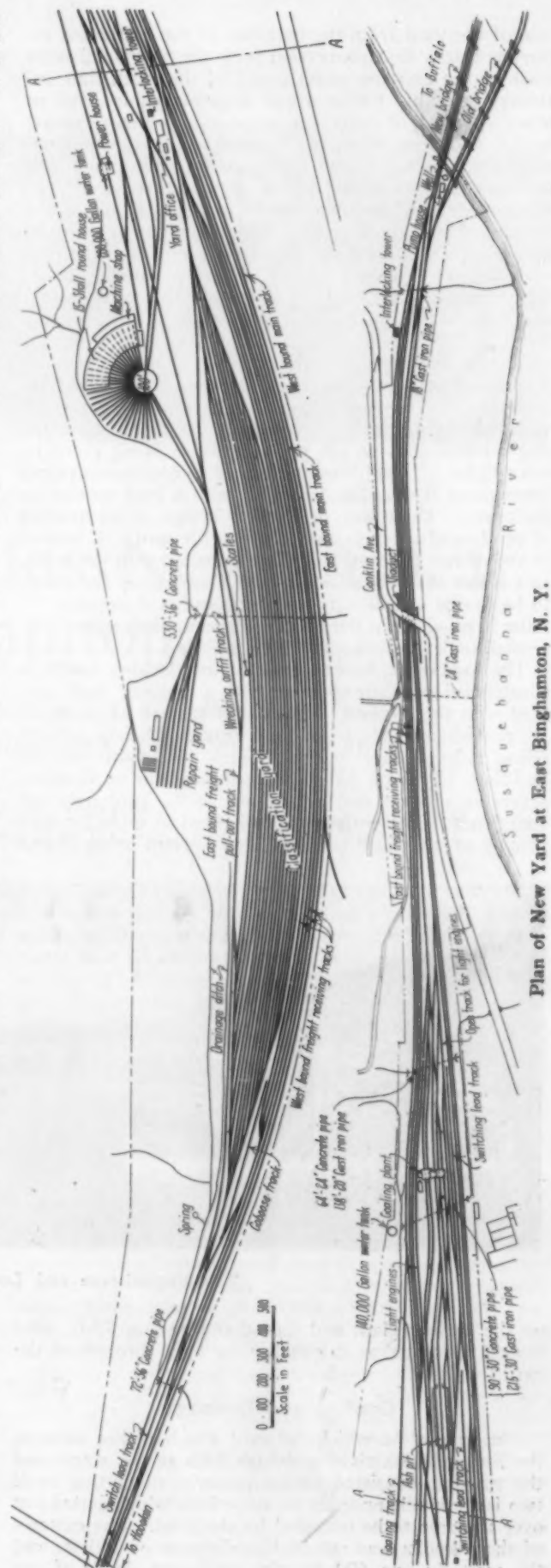
The Enginehouse

The enginehouse, which is located on the south side of the yard, is built on the arc of a circle and has 15 stalls, each with a length of 105 ft. Outside of the house 16 tracks radiate from the turntable to provide space for the temporary storage of locomotives. The enginehouse is of reinforced concrete construction with a creosoted plank roof covered with slag roofing. The roof planks are fastened to the reinforced concrete beams with bolts having countersunk nuts and the spaces about the nuts are filled with a special mastic to protect them completely from the action of the coal gas from the locomotives. The floor is three-inch wood blocks placed directly on a six-inch concrete base. The door openings to the engine pits are 13 ft. 11 in. wide and 17 ft. high, and the doors are made of sheet steel reinforced with angles. The provisions for natural lighting are exceptionally complete, the windows in the circle wall and the monitor section of the roof being continuous between the columns, while the end of the house is occupied almost entirely by windows. Four electric drop lights between each engine pit, one light to each bay, furnish ample illumination at night. The engine pits are 82½ ft. long and 4 ft. wide, with creosoted yellow pine jacking plank, 6 in. thick and 36 in. wide, along the outside of each rail for the entire length of the pit. Cast iron smoke jacks are used.

Auxiliary facilities, which include the master mechanic's offices, store rooms, boiler washout room, fan room and a small machine shop, are located around the outer circle wall, forming a part of the structure. Since only light repairs to locomotives are made at this point a large machine shop is not necessary.

The enginehouse and adjacent rooms are heated by air drawn through steam-heated radiators and forced by fans through underground concrete ducts to openings in the engine pits and various rooms, and then escaping through openings just under the roof. The capacity of the system provides for six complete changes of air per hour and carries the smoke and gases out of the house, thus combining the functions of heating and ventilation and adding to the comfort, health and efficiency of the workmen.

The entrance to the house is over a Bethlehem three-point bearing turntable 100 ft. long, operated by electric motors at each end, the motors being controlled from an operator's cab at one end of the table. The distance from the turntable to the enginehouse is 100 ft. Double tracks lead onto the turntable from each side with a water crane located between the tracks of each of the approaches.



Plan of New Yard at East Binghamton, N. Y.

Coal and Ash Handling Facilities

The coaling plant is located near the west end of the yard and is of the mechanical type, with a capacity of 600 tons, serving four tracks. Engine sand is also supplied from a sand hopper built into the coaling plant. The coal is unloaded into a double track hopper from which an electrically-operated bucket hoist carries it to the pockets.

The ash pit is of the water pit type, carrying double tracks. The pit, which was an old facility, was originally 140 ft. long but was extended to a length of 240 ft. when the yard was built, this length allowing eight engines to be placed on the pit at one time, four on each track. The cinders are removed from the pit and loaded into cars placed on a track between the engine tracks by an electrically-operated overhead traveling crane with a clam shell bucket. The pits are covered with sectional gratings made of angle iron to serve as a platform for the fire cleaners and to afford protection to the men around the pits, the gratings being removed and replaced by the ash crane when the cinders are taken from the pits. Flexible operation of the pit is afforded by a series of switches and crossovers.

The car repair yard, located on low ground south of the classification yard and about 1,400 ft. east of the enginehouse, consists of 6 tracks, 20 ft. center to center, with a capacity of 40 cars, the design being such that an additional capacity of 14 cars can be secured readily if desired. The entire yard is floored with 4-in. creosoted yellow pine planking and dolly tracks are provided in the alternate spaces between the tracks. A plain concrete building, 21 ft. by 97 ft., with a concrete roof covered with slag roofing, houses the store room together with the foreman's office and the men's locker

the basement is of brick with a concrete roof covered with slag roofing. The main floor is divided into two rooms, one of which contains a steam-driven horizontal air compressor with a capacity of 1,200 cu. ft. of free air per minute, a battery of nine locomotive air pumps



One of the Flood Lighting Towers

for emergency use, an electrically-driven fire pump, boiler feed pumps and a steam-driven electric generator for emergency use, current under normal conditions



Ample Provisions Have Been Made for Natural Light in the Enginehouse

and wash room. A building of similar construction, 12 ft. by 16 ft., contains the blacksmith shop.

Power Plant

The power plant, which is located on the south side of the yard about 600 ft. west of the enginehouse, has a reinforced concrete basement, while the portion above

being obtained from the Binghamton Light, Heat & Power Company.

The air compressor supplies air for the operation of the interlocking system and also for a system of air pipes through the yard for charging the air reservoirs of the outgoing trains prior to coupling on the locomotive. These air lines extend for a distance of 1,000 ft.

at the end of all classification tracks and are provided with air connections at intervals of about 100 ft., thus avoiding the necessity of pumping up the air after the locomotive is attached to the train and effecting a saving of from 15 to 20 min. for each train.

Steam is furnished by two 284-hp. vertical water tube boilers, fired with barley coal which is delivered in hopper cars inside the building on a track elevated 13 ft. above the firing floor and dumped into a storage space in front of the boilers. The coal storage floor is one foot higher than the firing floor and a sufficient distance from the front of the boilers to enable the fireman to feed the fire by taking one short step.

Ashes from the grates are raked to openings just inside the fire doors, dropping into cast iron hoppers underneath the firing floor where they are quenched by water flowing through perforated pipes, after which the hoppers are opened by mechanism controlled from the firing floor allowing the ashes to drop into a cinder car placed on a track at the level of the basement floor.

Water Facilities

All of the water, except that for drinking purposes, is pumped direct from the Susquehanna river, the pump house being located on the bank of the river opposite the extreme westerly end of the yard. Two electrically-operated centrifugal pumps, direct-connected to the motors, are installed, each with a capacity of 500 gal. per minute. Only one pump is used, the other being held in reserve for emergency use. The pumps are automatically controlled by a mercury pressure gage attached to one of the steel water tanks, which opens or closes an electric switch, depending on the height of the water in the tank, thereby shutting off or turning on the current at the motors. A foot valve in the intake line, with a by-pass at the pump, retains the priming when the pump is not operating.

The water is carried from the pumps to two steel water tanks through an 8-in. cast iron main. One of the water tanks, with a capacity of 140,000 gal., is located near the coaling plant, about 4,800 ft. from the pump house, while the other, with a capacity of 200,000 gal., is located about 2,000 ft. further east, near the enginehouse. The tops of the two tanks are at the same level, 68 ft. above the tracks and the water equalizes in the two tanks, thereby giving a total capacity of 340,000 gal. The 8-in. main also supplies water for the power house and the facilities at the enginehouse. Two water cranes are located at the coaling plant, two at the ash pit and two at the engine house. Drinking water is obtained through a connection with the city mains and is piped to all the offices and buildings.

Supervision

All work was done under the general supervision of G. J. Ray, chief engineer, and F. L. Wheaton, division engineer. The general plans were drawn up in the division engineer's office and the building plans in the office of D. Mack, architect; the power house equipment was ordered and installed under the direction of H. M. Warren, electrical engineer; and the interlocking system was designed and installed by J. E. Saunders, electrical engineer.

The track work and the laying of the water mains and air lines was done by company forces and the other work was done under three general contracts, one for the grading, another for the buildings and a third for the piping, aside from the water and air lines. The construction work was under the immediate charge of the writer, while R. I. Price, assistant engineer, was in charge of work in the field.

A.T.C. Installations on G. N. and N. P. Approved

WASHINGTON, D. C.

REPORTS approving, with exceptions, the installations of the automatic train-stop device of the Sprague Safety Control & Signal Corporation on the second sub-division of the Minot division of the Great Northern and on the Yellowstone division of the Northern Pacific, were issued on January 8 by Division 1 of the Interstate Commerce Commission, with the usual requirements as to inspections, tests, maintenance, etc.

The Great Northern installation extends from Minot to New Rockford, N. D., 108.91 miles, of which 4.39 miles is double track; and 24 locomotives are equipped. The Northern Pacific installation extends from Dickinson, N. D., to Glendive, Mont., 106 miles, single track, with 38 locomotives equipped. In both cases the device is an automatic train-stop system of the intermittent magnetic induction type with forestalling feature. The costs of the installations, as reported by the roads, covering wayside equipment and locomotives, were as follows:

Northern Pacific

ROADWAY EQUIPMENT:	
Total cost of roadway equipment of train control installation, less power lines and power apparatus, if any, and less signals or cost of change in existing signal system; less salvage	\$42,210.00
Total cost of power lines and power apparatus, if any, less salvage	None
Total cost of signal system installed in connection with train control, less salvage	None
Total cost of changes in existing signal system made necessary by train control; less salvage	7,885.00
(Includes storage battery.)	
Total all other roadway equipment cost, if any	4,577.00
(Approach lighting)	
Total cost of roadway installation	\$54,672.00
LOCOMOTIVE EQUIPMENT:	
Total cost locomotive equipment installed	3,849.00
Grand Total Cost	\$58,521.00

Great Northern

ROADWAY EQUIPMENT:	
(a) Total cost of roadway equipment of train control installation, less power lines and power apparatus, if any, and less cost of signals or cost of change in existing signal system, less salvage	\$29,922.07
(b) Total cost of power lines and power apparatus, if any, less salvage	None
(c) Total cost of signal system installed in connection with train control, less salvage	*Roadside equipment was installed along with the automatic block signals (color light type) under construction between New Rockford, N. D. and Minot, N. D. and no changes in signal system as originally contemplated were necessary.
(d) Total cost of changes in existing signal system made necessary by train control, less salvage	
* Applies both to c and d.	
(e) Total all other roadway equipment costs, if any	None
(f) Total cost of roadway installation	\$29,922.07
LOCOMOTIVE EQUIPMENT:	
Total cost locomotive equipment installed	\$26,118.68
Total cost of installation	\$56,040.75

Exceptions

The exceptions as stated in the Great Northern report, and repeated in the Northern Pacific report in substance, are as follows:

1. Since overcharging of the capacity reservoir may interfere with or prevent an automatic service reduction in the equalizing reservoir and brake pipe, adequate means must be maintained to prevent such overcharging.

2. The train-stop reset apparatus, as located on locomotive 3222, and all other engines on which this apparatus is in violation of paragraph 6, Design and Construction, of the prescribed specifications and requirements, must be promptly relocated to conform with this provision.



Looking East Along North-Western Tracks, Automobile at Left Passing Signal on Lincoln Highway

Unique Crossing Signals

*Solves problem for city and the Chicago
& North Western*

By J. A. Peabody

Signal Engineer, Chicago & North Western

THE city of DeKalb, Ill., in conjunction with the Chicago & North Western has a unique installation of crossing protection signals at a point where two streets intersect at right angles with each other and at approximately 45 deg. with a crossing of the railroad. The main east and west street carries

of automatic control of automobile traffic where Fourth Street crosses the Lincoln Highway on the railroad crossing on account of the railroad traffic introducing added complications. Crossing gates were not satisfactory at this point because the automobile traffic was so



Location of Traffic Signals at Special Crossing

the heavy automobile traffic of the Lincoln Highway while the double track main line of the Chicago & North Western handles about 80 trains a day in addition to switching movements in this growing industrial town. Crossing gates had been in service at the Lincoln Highway railroad crossing in addition to a flagman on the ground.

The city of DeKalb installed automatic electric traffic signals at all of the crossings of the streets with the Lincoln Highway but was unable to solve the problem



Wig-Wags Mounted Nine Feet High at Side of Street Can Be Seen Over Parked Automobiles

heavy that often the gateman could not lower the gates for fear of injuring automobiles or shutting cars in between the gates. A flagman was, therefore, required in addition on the ground but all of this protection did not prevent the confusion between the heavy traffic on the two highways.

An agreement was therefore made between the city

and the railroad to remove the crossing protection in service at the several crossings, including gates at some crossings and flagmen at others, and to install wig-wags at all such crossings, except at Lincoln Highway where a special arrangement was to be worked out. This change enabled the force required for protecting the crossings to be reduced from 27 men to 9.

Automatic track control of the wig-wags by approaching trains could not be used because of the great amount of switching being done constantly on the main tracks. It was, therefore, arranged to control the operation of the wig-wags by switches placed in towers located centrally in each layout of crossings. By this arrangement one man can operate the wig-wags at several crossings whereas two or three men were required in as many towers to operate the old gates. The wig-wags are all installed on the curb line at a height of 9 ft. from the base to the center of the light, this height being necessary to comply with the state requirements and to prevent the signals from being hidden by parked automobiles. The type of wig-wag used can be mounted either on the curb line or in the center of the street.

Combination Control for Traffic Signals

The special layout at the Lincoln Highway crossing includes four regular street traffic signals indicating "Stop," "Traffic Change" and "Go." Normally these signals operate the same as other such signals, under the control of an automatic timing device. However, when the Chicago & North Western signal controller in the tower, about 100 ft. from the crossing, sees a train approaching he throws a switch which sets all four of these traffic signals at "Stop" and in addition rings regular highway crossing alarm bells, one of which is mounted on each traffic signal. This "Stop" indication is effective until the control passes and the signal controller turns his switch, at which time the control reverts back to the automatic system. A flagman in police uniform, an employee of the Chicago & North Western, is on duty at this crossing to insure obedience to indication of these special traffic signals.

Although the automobile traffic on this crossing is extremely heavy on both streets, the new signaling arrangement has proved satisfactory in several months' service and better protection is afforded than was experienced with the gates. The only change necessary from the ordinary highway crossing layout was to lengthen the time for the yellow or "Traffic Change" indication to allow more time for cars to get across the long diagonal distance between the signals.

More Budgets Received

IN addition to the budgets of 27 roads which were summarized in the *Railway Age* of January 1 and which indicated that these roads contemplated the expenditure of more than \$315,000,000 during 1927, we have since received similar information from the Atchison, Topeka & Santa Fe, the Missouri Pacific and the Union Pacific systems. These budgets contemplate the expenditure of \$114,591,020 in addition to that previously reported.

The Santa Fe

The budget of the Atchison, Topeka & Santa Fe System authorizes expenditures totaling \$67,000,000, including \$15,500,000 for new equipment, \$27,500,000 for additions, betterments and improvements, and \$24,000,000 for the completion of work authorized in 1926 and

carried over into this year. The equipment includes 3,200 freight cars, 58 passenger cars, 60 locomotives and 3 gas-electric cars.

Among the more important roadway improvements are 72 miles of second track, 4.5 miles of which is in Oklahoma, 27 miles in Texas and 40.5 miles in Arizona. A total of 921 track miles of new rail will be laid, 592 miles of which will be of 110-lb. section and 329 miles of 90-lb. section. No new lines are contemplated in 1927 although substantial improvements will be made in shop facilities at Cleburne, Tex., and a large fire-proof hotel is expected to be built at the Grand Canyon.

The Missouri Pacific

The Missouri Pacific budget contemplates the expenditure of \$31,411,020, which includes \$10,401,820 for equipment and \$22,031,970 for roadway improvements on the Missouri Pacific Railroad, \$2,632,870 for equipment and \$4,724,350 for roadway work on the International-Great Northern, \$1,374,130 for equipment and \$4,400,370 for roadway improvements on the Gulf Coast Lines and \$254,330 for roadway improvements on the San Antonio, Uvalde & Gulf.

Among the more important items in the new equipment budget of the Missouri Pacific Railroad are \$1,462,500 for 25 locomotives, \$6,431,250 for 2,500 freight cars and \$1,308,400 for 44 passenger cars. Among the roadway expenditures contemplated are \$3,064,700 for second track between St. Louis, Mo., and Jefferson City and \$772,860 for second track between Curtis, Ark., and Bierne; \$1,679,500 for rail and other track materials; \$1,291,000 for bridges, trestles and culverts; \$1,240,605 for yard tracks and sidings; \$1,107,575 for signals and interlockers; \$200,150 for shop buildings, engine houses, etc.; and \$325,000 for shop machinery and tools.

The new equipment budget for the International-Great Northern includes 10 locomotives, 600 freight cars and 14 passenger cars, while the roadway expenditures include appropriations for widening banks and increasing the strength of the line in other respects.

On the Gulf Coast Lines the purchase of 11 locomotives, 20 caboose cars, 12 passenger cars and 100 ballast cars is contemplated. In addition, \$1,132,900 has been set aside for additional branch lines, in addition to numerous expenditures for strengthening the roadbed.

The Union Pacific

The Union Pacific System contemplates the expenditure of \$16,180,000 for improvements in 1927 of which \$2,480,000 is allocated to equipment and \$13,700,000 to roadway and structures. This includes one six-mile extension, \$195,000; six passenger and freight stations, \$325,000; new shop facilities \$400,000; shop tools and equipment, \$300,000; new signaling, 265 miles, \$780,000; grade separation, \$500,000; miscellaneous roadway improvements, \$5,000,000. The equipment budget includes the purchase of 200 freight cars at an estimated cost of \$360,000 and 35 passenger cars at an estimated cost of \$1,320,000. In addition to the above work, work was carried over from 1926 involving the expenditure of approximately \$7,000,000 during the current year.

THE CENTRAL OF NEW JERSEY adopting a recommendation of the Pennsylvania Public Service Commission has adopted a rule requiring all trains to stop before crossing the Lehigh Valley road at South Bethlehem, the crossing (interlocked) being that at which on September 27, a southbound passenger train ran into a passenger train of the Lehigh Valley with the result that eight persons were killed.

Confirmation of C. E. Woods Opposed

Senate committee considers appointment in relation to coal rate controversy

POLITICAL and business considerations combined have produced a very lively controversy over the confirmation by the Senate of the President's nomination of Cyrus E. Woods, of Greensburg, Pa., for appointment as a member of the Interstate Commerce Commission.

The Senate committee on interstate commerce, after a week of hearings, on January 12, voted eight to six against recommending confirmation of the appointment by the Senate. This conclusion was reached within half an hour of the close of the hearings and transfers the fight to the floor of the Senate in executive session.

Aside from the not unusual Democratic opposition to appointments made by a Republican President, particularly in the case of a man who admits that he owns large amounts of stocks and bonds of railroad and other corporations, the circumstances connected with Mr. Woods' appointment have transferred to the Senate the freight rate controversy between the coal interests of Pennsylvania and those of West Virginia and other states of the southern coal district which has been before the Interstate Commerce Commission off and on for 16 years and is now pending before it in the lake cargo coal rate case. Mr. Woods had also become involved in the investigation by a Senate committee of the campaign expenditures in connection with the Pennsylvania elections of last year, but the hearing called by the Senate committee on interstate commerce for January 6 to inquire into his fitness for a commissionership immediately demonstrated that the fight over the relation between the coal rates to the lake ports was to overshadow all other considerations.

The fact that he is a friend of Secretary Mellon, whose family is supposed to be interested in the Pittsburgh Coal Company, of which Mr. Woods was general counsel up to 14 years ago and which is the leading complainant in the lake cargo coal case, added another feature to the case, while the fact that Mr. Woods was for several years a local attorney for the Pennsylvania Railroad and is still a stock and bond holder of that company makes another complication. That he is 66 years old and has had no experience with the kind of problems that come before the Interstate Commerce Commission for decision have also been mentioned.

Prospects of Confirmation

Various opinions are heard as to the probable outcome, one theory rumored around the Capitol being that, while there are enough Republican senators from coal states other than Pennsylvania to combine with the Democrats and defeat confirmation, "deals" with certain Democratic senators who have candidates of their own for various offices might have the effect of breaking up any tendency toward Democratic solidarity.

Those who opposed the confirmation of Commissioner Woodlock last year also say that Mr. Woods' appointment now represents part of the price paid for that confirmation because the votes of the two Pennsylvania senators as well as certain others are supposed to have been persuaded only by the President's statement that the next vacancies on the commission would be filled from the South, the Southwest and Pennsylvania.

WASHINGTON, D. C.

Mr. Woods was called as the first witness before the committee and was questioned regarding his experiences, connections and opinions, in much the same way that Commissioner Woodlock was last year. The committee then heard from representatives of the southern coal district and others who are protesting against Mr. Woods' appointment. These seemed extremely suspicious that more than a coincidence was represented by the appointment of a man sponsored by Senator Reed of Pennsylvania so soon after the speeches made by Senator Reed in the Senate and elsewhere, criticizing the Interstate Commerce Commission for not having decided the rate case in favor of Pennsylvania coal producers in its last decision and insisting that he intended to see that Pennsylvania should have a representative on the commission that would bring it relief. Some who did not attempt to attach so much importance to Mr. Woods' former connections with the coal company took the position that an appointment in the circumstances would tend to weaken confidence in the commission.

Senator Goff of West Virginia assumed the role of "prosecutor" at the hearings, and Senators Reed of Pennsylvania and Neely of West Virginia also took an active part in the questioning, although not members of the committee.

Mr. Woods' Experience

Mr. Woods told the committee that he was born in 1861, that he worked in the accounting department of the Pennsylvania to earn money to pay his college expenses, that he studied law in the office of John G. Johnson, who was special counsel for the Pennsylvania, and later became solicitor for the railroad for Westmoreland county, from 1900 to 1907. He was then until 1912 general counsel of the Pittsburgh Coal Company, which he admitted was the largest coal company in that section, although he could not quite agree with Senator Goff that it was "generally known as the Coal Trust of the United States." He was then United States Minister to Portugal, secretary of the commonwealth of Pennsylvania and ambassador to Spain and then to Japan, resigning in 1924, after the earthquake.

Asked if he had ever appeared before the Interstate Commerce Commission, Mr. Woods said that he had been one of the attorneys of record in one of the predecessors of the lake cargo coal case but that he had employed Wade H. Ellis and Louis D. Brandeis to represent the Pittsburgh Coal Company and had himself taken very little part in the case. When questioned as to whether he had had any experience in such matters as rate-making, valuation, railroad consolidation, regulation of securities and similar matters, he said he had not; that if placed in the commission he would be without preconceived opinions or bias on such questions.

"And without any practical experience to assist you," added Senator Goff, but Mr. Woods said that he had had a broad legal experience and thought he was qualified to apply the law to the facts of a case.

Security Holdings

Questions as to the control of the coal company and as to the interest of the Mellon family in it brought a state-

ment from Mr. Woods that he still held about 107 shares of its stock. When he said he also owned some railroad securities Senator Wheeler asked for the amounts and Mr. Woods said that he owned 500 shares of Pennsylvania stock, \$50,000 of its bonds, \$25,000 each of the bonds of the Norfolk & Western, Atchison, Union Pacific and Northern Pacific, that he was not interested in the Union Trust Company of Pittsburgh or other banks but that he also held about 100 shares of the Westmoreland Coal Company, 1,000 shares of U. S. Steel preferred, \$25,000 of its bonds and \$50,000 of bonds of the H. C. Frick Coke Company. Of course, he said, he would expect to divest himself of his holdings, in accordance with the law, if placed in the commission.

Mr. Woods said he had never had anything to do with the operations of the coal companies and had had no interest in the coal business since 1912. He knew very little about the lake cargo case and did not even learn that it had been reopened until after he had been appointed.

Woods Would Not Participate in Rate Case

Mr. Woods told the committee at the hearing on January 7 that he would not think of sitting with the commission or participating in its decision in the coal rate case or any continuation of it if it should come before the commission again, because it would be in "extremely bad taste," and might be misconstrued. He said that he considered that the Interstate Commerce Commission is as national in its scope as the Supreme Court and that he believed his broad legal training would make it impossible for him to consider questions brought before the commission from any other than a broad national standpoint.

Had Not Sought Appointment

Mr. Woods said that he had never discussed the case with Senator Reed nor with anyone else since he left the coal company, and that he had not sought appointment to the commission in any way but that Senator Reed had asked him if he would accept it and that he knew nothing more about how it was brought about. Senator Goff had asked if it was not a fact that Secretary Mellon was more responsible for the appointment than anyone else. Mr. Woods said he did not know, but that he had discussed the appointment with Secretary Mellon and had asked his advice as to whether he was qualified to hold the office successfully. He had not discussed the rate case with Mr. Mellon except to say that he did not intend to participate in it and that Mr. Mellon had agreed with his judgment.

Asked if he had ever been told after Mr. Woodlock's confirmation that he would be the next appointee, Mr. Woods said he had not.

Senator Goff asked Mr. Woods if his appointment had not been discussed at a meeting of the directors of the Pennsylvania on October 5. Mr. Woods said he knew nothing of that and Senator Reed said he had not known it until November, although he had been trying for two years to get him appointed.

Opposition by Coal Producers

A Mr. Belcher of Charleston, W. Va., read a carefully prepared statement on behalf of coal producers in West Virginia, Virginia, Kentucky and Tennessee and certain chambers of commerce and other civic organizations in these and other states, declaring that the interests of Pennsylvania, especially the bituminous coal interests, "have so unequivocally and boldly stated their motive and purpose to gain representation on the commission to further these interests as to strike at the very heart

and soul" of the fundamental principles that should govern the commission.

"He stands committed to the rate theories advocated by certain Pennsylvania coal interests and against these southern districts," said Mr. Belcher. "These conflicts will necessarily be renewed in the future in connection with many rates. The confirmation of Mr. Woods would put him in a position intolerable to a sensitive and right-thinking man. No decision he might render in these cases could ever be free from suspicion. He would be stigmatized either as a blind, prejudging partisan or as a traitor, depending upon the side which he might favor. He is, therefore, wholly unfitted to pass impartially or judicially upon these conflicting contentions, now or in the future."

Declaring that the public interests should not be subordinated to those of a particular locality, that the independence of the commission should not be jeopardized by politics, sectionalism "or an inordinate ambition to gain monopolistic control of coal shipments in interstate commerce for any particular state," Mr. Belcher quoted from public statements made by Senator Reed to illustrate the desire of the Pennsylvania interests to secure representation on the commission.

At a banquet of Pennsylvania operators held in Uniontown in last March, according to Mr. Belcher, Senator Reed had said: "We are going to demand our rights, but we are not going to stop at that. We are not only going to demand them but we are going to fight for them, and fighting for them means that we are going to keep at it until we have fair representation and until that fair representation has yielded a correction of these conditions of which we complain."

Mr. Belcher also referred to the alleged promises made to Senator Reed at the White House when the confirmation of Commissioner Woodlock was under discussion in the Senate, and declared that the appointment of Mr. Woods as a member of the rate tribunal "for the avowed purpose of correcting the alleged ills of Pennsylvania operators, when their correction meant the imposing of additional and unnecessary burdens on southern shippers of coal, violates every principle of common justice heretofore zealously safeguarded in this country."

"If powerful political and industrial influences, coupled with the selfish desires of those dominating the business of certain localities or regions, are to dominate the Interstate Commerce Commission which has heretofore been independent of these influences and uncontrolled by such desires, then the hope for a scientific and non-partisan development of administrative law has perished and the future findings of this commission will be thought of by fair-minded men with contempt," he said.

Senator McKellar Opposes Woods

A statement was read from W. C. Caulkins, vice-president of the Cincinnati Chamber of Commerce, opposing confirmation of Mr. Woods because, whether correctly or not, there is a widespread belief that his appointment was dictated by political expediency and would seriously impair public confidence in the commission, and also because there is pending a rate controversy on one side of which are ranged the friends and supporters of Mr. Woods and which had been decided against his friends by the narrow margin of one vote. The case should be decided by the full vote of a commission not one of whose members is under suspicion, he said.

Statements similar to that of Mr. Belcher were also made by W. F. Kerwin, of Green Bay, Wis.; E. M. Showalter, of Fairmont, W. Va., and Harry E. Zeller, of Huntington, W. Va.

Senator McKellar of Tennessee spoke in opposition to

Mr. Woods' confirmation on January 8, basing his argument mainly on the fact that Mr. Woods owns railroad securities. He contended that the law, which provides that a man shall not "enter upon the duties" of an Interstate Commerce Commissioner or "hold office" who has any pecuniary interest in railroads, does not mean that a man may divest himself of his interest by selling his securities, perhaps by transferring them to his wife or children, but that "it bans the man who owns them." He also said that Mr. Woods is ineligible because of his connection with the Pittsburgh Coal Company and the "peculiar conditions surrounding his appointment." He also spoke of his age and his inexperience in rate-making, saying that a man of 66 after a diplomatic career is not fitted for the laborious and technical work of the commission.

Pepper for Woods

Senator Pepper of Pennsylvania had addressed the committee on January 10 particularly to say that Mr. Woods had in no way been in a managerial capacity in connection with the Pennsylvania primary campaign and had had nothing to do with campaign expenditures, but had been asked to co-ordinate the campaign of Senator Pepper and that of John Fisher, who was running for governor. He also said he had never discussed the lake cargo coal rate case with Mr. Woods and knew very little about it, but that he had been for Mr. Woods for a long time as the best man in Pennsylvania for the office.

Senator Reed read into the record a letter from Mr. Woods saying that if his appointment is confirmed he will immediately sell his securities in the open market, and not transfer them to some member of his family as had been suggested by Senator McKellar.

Senator Neely brought up the labor issue by asking Mr. Woods, in view of a rumor that his candidacy is in favor of the unionized coal fields, if the Pittsburgh Coal Company had not recently adopted a policy of non-unionizing its mines. Mr. Woods said he did not know but thought he had read such a statement in a newspaper.

Senator Neely in a closing statement said that he would be glad to vote for Mr. Woods for a diplomatic appointment, and thought him a "man of fine character and absolutely noble purpose," but that he was absolutely unfitted for appointment to the commission because of his former connection with the Pennsylvania and the coal company, because of his holdings in companies having rate interests before the commission and his "natural sympathy with the rate-paying interests of Pennsylvania," and because his appointment had been dictated by Senator Reed as part of his campaign to obtain "representation" of Pennsylvania. When Senator Reed asked whether Pennsylvania is not entitled to one-eleventh of the commission because it has more than one-eleventh of the population of the United States, Senator Neely said that two of the present commissioners were born in Pennsylvania, Commissioners Eastman and McManamy. "We do not object to Pennsylvania's having representation," he said, "but we object to letting Pennsylvania pack the commission."

Senator Reed's Testimony

Senator Reed made his statement in support of Mr. Woods on January 12, saying that he had three times been confirmed by the Senate for important diplomatic posts and that if he goes on the commission he will strengthen it and add to its prestige. He declared that the coal rate controversy had been over-stressed, that Pennsylvania is interested in many important industries

affected by freight rates other than coal and that he had of course understood that Mr. Woods would not expect to sit in a case that had been brought so near to a conclusion. He said the circumstances in connection with Mr. Woods' leaving the Pittsburgh Coal Company fifteen years ago were such as to prejudice him against that company rather than influence him in favor of it, and that no one who knew Mr. Woods would expect him to consider questions before the commission in any way than from a national standpoint. He said he did not believe that there should be strict regional representation on the Interstate Commerce Commission but that since Pennsylvania had never had a member he did not think it presumptuous to try to get one when a vacancy occurred and that it had become apparent that Commissioner Cox could not be reappointed. He criticized Mr. Cox's record, saying that he had stated that the farmers are not affected by freight rates and that the troubles of the Pennsylvania coal operators are due to wage scales rather than to freight rates.

If Mr. Woods is disqualified to sit on the commission, he said, surely Senators from West Virginia are disqualified from voting against his confirmation.

Senator Neely made a brief closing statement, saying that if this appointment is confirmed it will result in "an era of horse-trading among Senators" for future appointments to the Commission.

Unification of S. P. Lines in Texas and Louisiana Approved

WASHINGTON, D. C.

AQUISITION of control by the Texas & New Orleans of other lines of the Southern Pacific System in Texas and Louisiana, by lease, was approved and authorized by the Interstate Commerce Commission in a decision made public on January 7.

The application was for authorization for the completion of unification of operations of twelve subsidiary companies of the Southern Pacific, comprising all of the transportation properties of that system in the two states.

All of these companies, including the Texas & New Orleans, are now controlled by the Southern Pacific Company, a corporation, and with two exceptions have been under such control for many years. The Southern Pacific owns all of the capital stock, except directors' qualifying shares, of the Texas & New Orleans, the Louisiana Western, Morgan's Louisiana & Texas, the Lake Charles & Northern, the Houston & Shreveport, the Houston & Texas Central, the Houston East & West Texas, and the Southern Pacific Terminal Company; and it owns all, except a few shares, of the capital stock of the Galveston, Harrisburg & San Antonio, and of the San Antonio & Aransas Pass. Morgan's Louisiana & Texas owns all of the capital stock, except directors' qualifying shares, of the Iberia & Vermilion and the Franklin & Abbeville. As to the two last-named companies, therefore, the control of the Southern Pacific is exercised through its subsidiary. All of these companies have heretofore made separate operating reports to the commission, although in many important matters of management, traffic, shop work, purchase of materials, etc., the companies are, to a large extent, already unified. The companies also have many officers in common. Their lines in some cases form through routes now operated as units. For example, the line between New Orleans, La., and El Paso, Tex., is now divided among the Morgan's Louisiana & Texas, the Louisiana West-

ern, the Texas & New Orleans, and the Galveston, Harrisburg & San Antonio. Similarly, the line between Houston, Tex., and Shreveport, La., is divided between the Houston East & West Texas and the Houston & Shreveport.

It was represented by the applicant that for rate-making purposes all of the properties are dealt with by federal and state commissions as being under common ownership, management, and control, but the companies, nevertheless, find it necessary to maintain separate organizations in Texas and Louisiana, as the result of which they are unable to realize the economies which would result from the more complete unification now proposed. The principal saving will be effected in the cost of printing and in the reduction of clerical and accounting forces. It was estimated that the saving thus to be effected will amount to between \$350,000 and \$400,000 per year.

The operating system proposed to be formed will include about 4,500 miles of line, made up as follows:

Company	Miles
Texas & New Orleans	569.59
Galveston, Harrisburg & San Antonio	2,104.65*
Louisiana Western	207.74
Morgan's Louisiana & Texas	400.67
Houston & Texas Central	900.32
Houston East & West Texas	191.60
Houston & Shreveport	40.74
Iberia & Vermilion	21.44
Franklin & Abbeville	50.90
Lake Charles & Northern	72.66
	4,560.31
Deduction account of duplication	70.58
Total	4,489.73

* Including 729.25 miles of the San Antonio & Aransas Pass, now under lease to the Galveston, Harrisburg & San Antonio, to be assigned to the Texas & New Orleans.

The Texas & New Orleans is already operating under lease the line of the Dayton-Goose Creek, 25.14 miles, and the line of the Texas State, 32.6 miles in length.

The leases proposed to be executed are substantially uniform in their provisions, being for the term of one year and thereafter, subject to termination on 30 days' notice by either party. They provide, among other things, that all expenditures by the lessee which are properly chargeable to any operating expense account or to any income account shall be charged to and assumed by the lessee, and that all expenditures by the lessee which are properly chargeable to any investment account shall be charged to and assumed by the lessor. The lessee agrees to pay to or for the account of each of the lessors annually a rental sufficient to provide for interest on funded debt, income taxes on outstanding tax-exempt bonds, unextinguished discount on bonds, sinking-fund contributions, and expenses necessary to keep up the corporate organization of the lessor. In addition to these payments, it is provided that the lessee shall pay cash rental as to certain of the properties, said to be based in large part upon the past and prospective earnings. The following table gives the amount of annual rental in each case and the net income of each of these carries as reported for the year 1925:

Carrier	Annual rental	Net income 1925
Houston & Shreveport	\$40,000	\$188,096
Louisiana Western	504,000	659,922
Galveston, Harrisburg & San Antonio	1,000,000	2,532,837
Houston & Texas Central	1,000,000	1,955,396
Houston East & West Texas	200,000	447,464
Southern Pacific	120,000	122,353

The lease of the San Antonio & Aransas Pass to the Galveston, Harrisburg & San Antonio, which is to be assigned to the Texas & New Orleans, is similar in its terms.

The Waco, Beaumont, Trinity & Sabine, which operates a line in southern Texas, connecting with lines of

the Southern Pacific, intervened for the purpose of urging proper consideration of its necessities and its desire for inclusion in some trunk line system in the consolidation of carriers under the provisions of section 5 of the act. As to this the report says: "The intervener has pending before us applications for authority to extend its lines, and its representative stated at the hearing that in case these applications are granted it will have no present desire for consolidation with any other carrier. It does not appear that the completion of unification of the Southern Pacific lines proposed in this proceeding will prejudice the claims of this carrier for recognition, and we do not consider it practicable to defer action upon this application pending the conclusion of the proceedings in which the intervener is more directly concerned."

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended January 1 amounted to 740,348 cars, a decrease of 1,212 cars as compared with the corresponding week of last year and of 26,750 cars as compared with 1925. The figures represent not only the usual end-of-the-year decline but also the fact that the week included a holiday. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

REVENUE FREIGHT CAR LOADING			
Week Ended Saturday, January 1, 1927			
Districts	1927	1926	1925
Eastern	175,901	167,975	176,254
Allegheny	159,016	150,251	151,422
Pocahontas	41,155	44,350	41,142
Southern	107,780	118,500	121,481
Northwestern	84,195	82,668	91,435
Central Western	112,639	116,099	125,905
Southwestern	59,662	61,717	59,459
Total Western Districts	256,496	260,484	276,799
Total All Roads	740,348	741,560	767,098
Commodities			
Grain and Grain Products	36,498	37,959	40,907
Live Stock	23,843	28,933	34,667
Coal	171,573	158,935	181,604
Coke	11,299	16,802	13,505
Forest Products	38,050	43,945	47,987
Ore	9,391	7,726	8,267
Misc. L. C. L.	202,256	194,561	192,724
Miscellaneous	247,438	252,699	247,437
January 1	740,348	741,560	767,098
December 25		772,590	701,061
December 18		950,575	969,738
December 11		998,715	1,008,696
December 4		1,058,151	1,020,839

The freight car surplus for the week ended December 31 averaged 275,260 cars, including 61,181 coal cars and 166,532 box cars.

Car Loading in Canada

Revenue car loadings at stations in Canada during the week ended January 1, showed a seasonal decline of 5,249 cars from the previous week. Compared with the same week last year there was, however, an increase of 4,957 cars.

Commodities	Total for Canada			Cumulative totals to date	
	Jan. 1, 1927	Dec. 25, 1926	Jan. 2, 1927	1926	1925
Grain and grain products	10,135	10,526	7,973	513,451	510,210
Live stock	1,333	1,239	1,421	117,771	126,631
Coal	5,854	8,384	5,014	334,412	240,048
Coke	421	468	387	20,055	16,488
Lumber	1,957	2,366	2,021	184,201	181,903
Pulpwood	2,441	2,143	2,337	128,871	125,605
Pulp and paper	1,482	1,849	2,166	121,789	108,383
Other forest products	1,976	2,284	1,799	157,862	144,258
Ore	1,364	1,312	1,350	90,053	74,161
Merchandise, L. C. L.	12,422	13,699	10,753	852,153	795,415
Miscellaneous	9,209	9,573	8,420	737,773	668,711
Total cars loaded	48,594	53,843	43,637	3,258,390	2,989,813
Total cars received from connections	31,073	34,563	26,616	1,932,921	1,730,480



Kansas City Southern Bridge Over the Arkansas River

The Kansas City Southern

Nucleus of proposed southwestern system has strategic location and well developed property

THE Kansas City Southern, in spite of its being only 850 miles in length, seems destined for a while to be one of the leading carriers in the making of railroad history. It was only on December 31, for instance, that the federal district court at Kansas City annulled the Interstate Commerce Commission's final valuation of the property. It appears, as a result, that the road's value will, in the not far distant future,

quarter as much mileage as the Katy and half as much as the Cotton Belt, one might imagine a sort of "tail-wag-the-dog" effect. Such a simile is seen to be inappropriate, however, when one appreciates the Kansas City Southern's peculiar strategic position in the Southwest or the place held in the railroad world by the chairman of its board of directors, L. F. Loree.

Does Not Own Feeder Lines

The Kansas City Southern's line extends from Kansas City, Mo., to Port Arthur, Tex.; this is about 100 miles shorter than the next shortest line between Kansas City and the Gulf of Mexico. Inasmuch as the distance from Kansas City to Port Arthur is 786 miles and the road's total mileage is 850 the company can be said to have practically no branch lines. It does not suffer, however, for lack of feeder lines because the road has about 85 connections with other carriers, or an average of one for about every ten miles. It appears that the road has plenty of feeder lines but that it has been so fortunate as not to have had to take over ownership of these feeders to secure the traffic originating on them. It is not so clear, of course, that the short line railway interests prefer that sort of policy.

The Kansas City-Port Arthur route forms about as nearly a straight line as it is possible for an economically located road in hilly country to follow. A peculiar feature of the line is the closeness with which it follows the state boundaries and crosses from one state to another as topography requires. Thus the line extends due south from Kansas City along the Missouri-Kansas state boundary veering slightly westward to reach the Pittsburg, Kan., coal fields and then slightly to the eastward to reach the Joplin lead and zinc mining area. It then continues along the Arkansas-Oklahoma state line crossing the boundary almost at right angles not far from where the road reaches its highest elevation of 1,620 feet in its crossing of the Ozarks. After passing through the important distributing center of Texarkana, Tex.-Ark., it closely parallels the Louisiana-Texas boundary on the Louisiana side, passing through Shreveport and then at DeQuincy turning southwest into Texas at Beaumont and then south and east to the terminus at



Station at Port Arthur

be a matter for consideration by the United States Supreme Court. It is expected that the court will clear up many points about railroad valuation beyond those which it is hoped will be decided in the Los Angeles & Salt Lake case which is already before the Supreme Court.

Another fact that has put the Kansas City Southern in the public eye is the part the road has played in L. F. Loree's contemplated merger of three southwestern roads—the Kansas City Southern, the Missouri-Kansas-Texas and the St. Louis Southwestern. Considering that the Kansas City Southern, which is the parent company of the proposed new Loree system, operates about one-

Port Arthur. The last named is considerably inland from the Gulf of Mexico and is reached by ocean going vessels which come up Sabine Pass and follow a seven-mile ship canal, in which a depth of 27 feet is maintained. The fact that Port Arthur is so far inland is said to be a valuable protection from storms.

Traffic

The Kansas City Southern is properly described as being more of an originator of traffic than a distributor; the Katy on the other hand partakes rather more of the distributing character. The road receives coal traffic from the Pittsburgh district and lead and zinc from Joplin. In the Ozarks there originates a considerable traffic in hardwoods and fruits. There is also some coal along the company's line in Oklahoma and Arkansas. The road crosses through an immense pine forest area in Louisiana and Texas and reaches several oil areas. There are a number of large oil refineries in the Port Arthur district from which there is received a sizeable tonnage of petroleum products for rail movement to the north. Another important traffic is grain which comes to the Kansas City Southern at Kansas City and moves over its rails to its own elevators at Port Arthur or via connections to New Orleans or Galveston. The Kansas City Southern is also the best located road in Kansas City. It ranks with the leaders in that city in the number of miles of track and of industries served and the number and capacity of its team tracks are considerably in excess of those of any other carrier.

In 1925, the road's traffic was divided as follows: Products of agriculture, 9 per cent; animals and products, 2 per cent; products of mines, 32 per cent; products of forests, 20 per cent; manufactures and miscellaneous, 35 per cent, and l.c.l., 1½ per cent. The road originates about 55 per cent of its traffic. The bituminous coal traffic in 1925, the larger part of which was originated

on the line, constituted 10.7 per cent of the total traffic. The road carries an unusually large percentage of crude petroleum—in 1925, 8.2 per cent, nearly all received from connections. The largest single item under manufactures was refined petroleum, 22 per cent of the total revenue tonnage, and of this traffic 60 per cent was originated. This traffic in refined petroleum made up the largest single item in the entire commodity classification statement. The road is favored by having a rather even balance of traffic north and south.

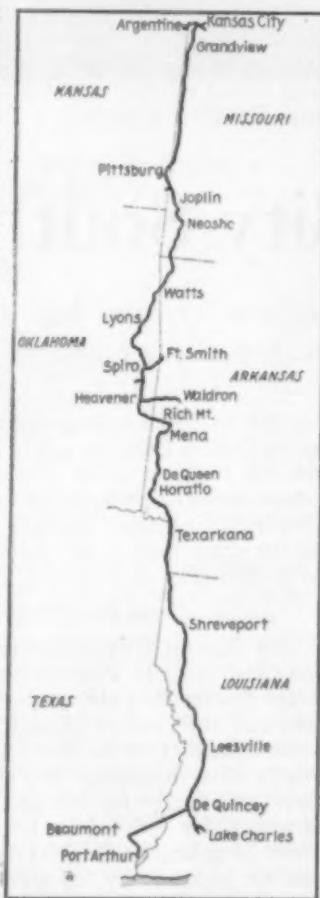
History

The Kansas City Southern was originally built or put together by Arthur E. Stilwell who obtained a charter for the line from the state of Missouri in 1893. Mr. Stilwell already owned the Kansas City Suburban Belt which he leased to the new company then known as the Kansas City, Pittsburg & Gulf. He secured separate charters in Louisiana and Texas—the Texas mileage is operated under the name, Texarkana & Fort Smith—and by acquiring lines already built and by new construction completed the new line and opened it for operation in 1897. Considering the business conditions of the period immediately following the panic of 1893 and the rugged and undeveloped character of much of the country served it is neither surprising that the promoter had to be discreet in his expenditures nor that the road should have failed to prosper. As a matter of fact it went into receivership almost as soon as it was in operation, namely on April 1, 1899. It was sold at foreclosure exactly one year later and was reorganized as the Kansas City Southern. Control was in the hands of voting trustees for a period of five years and on January 1, 1905, the property passed to its present owners.

The history of the Kansas City Southern from that time on was peculiar in many respects, particularly from the standpoint of the strong policies adopted by the new owners. The road, as might have been expected from the conditions under which Mr. Stilwell worked, had been built rather too cheaply with an uneconomical grade line, light bridges, light rail and light power and with inadequate sidings, yards and terminal facilities which alike prevented it from going after business aggressively and of handling its traffic economically.

The new management first had expert analyses made of the situation and then proceeded upon an ambitious program of rehabilitation and rebuilding. The most important single factors in this program were extensive grade revisions and line changes. The freight districts were rearranged to permit more economical use of power. This required new engine terminals at various points. Then attention was given to roadbed, ballast, bridges, culverts, heavier rail and longer passing tracks to permit the use of heavier power. Almost at once plans were drawn up for modern repair shops, the important system shop at Pittsburg, Kan., being completed in 1912.

Attention was given in due course to the development of the already extensive terminal properties at Kansas City and Port Arthur, to the building of more adequate



The Kansas City Southern

KANSAS CITY SOUTHERN OPERATING RESULTS, SELECTED ITEMS, 1916 TO 1925

Year	Mileage	Revenue Ton Miles	Revenue Passenger Miles	Rev. Per Ton Mile Cents	Total Operating Revenues	Total Operating Expenses	Net Operating Revenues	Operating Ratio	Railway Operating Income	Net Charges	
										Net After Charges	for Additions and Betterments
1916.....	837	1,172,356,000	69,263,000	0.733	11,289,324	6,782,700	4,506,624	60.08	.....	2,022,642	964,278
1917.....	837	1,432,559,000	83,033,000	0.728	13,547,487	8,205,536	5,341,951	60.57	.....	2,624,143	438,594
1918.....	836	1,680,904,000	90,557,000	0.765	16,531,528	12,363,558	4,167,970	74.79	.....	1,074,931	1,359,575
1919.....	842	1,270,503,000	95,880,000	0.990	16,607,011	13,329,087	3,277,923	80.26	.....	1,342,679	1,432,910
1920.....	842	1,674,717,000	105,908,000	1.037	22,355,227	17,911,665	4,443,562	80.12	.....	1,924,054	517,431
1921.....	842	1,553,509,000	71,358,000	1.138	21,768,140	16,103,992	5,664,148	73.98	.....	2,433,005	626,342
1922.....	842	1,507,716,000	63,233,000	1.084	20,361,180	15,083,460	5,277,720	74.08	3,398,855	1,586,531	934,343
1923.....	842	1,684,014,000	70,450,000	1.074	22,485,099	16,708,811	5,776,288	74.31	3,537,101	2,773,434	3,503,165
1924.....	854	1,542,245,000	59,875,000	1.098	21,024,012	15,256,529	5,767,484	72.57	3,864,377	1,981,803	1,490,394
1925.....	865	1,592,311,000	51,675,000	1.095	21,165,155	14,585,804	6,579,352	68.91	4,493,426	2,113,299	1,411,421

stations at all points on the line, etc. The statement has been made that today the Kansas City Southern is the most highly developed railroad in the territory which it serves. These things cost money and the result was to give the road a high capitalization. The improvements were charged to capital account and there has been an argument ever since with the Interstate Commerce Commission as to what should or should not be included in the valuation. The peculiar problem existing in this respect, combined with Mr. Loree's great interest in the subject of valuation in general, explains largely why the



View of Track on Top of Concrete Trestle

Kansas City Southern has been so willing to take issue with the Bureau of Valuation in the federal courts.

Grade Revision

The grade revision program had as its motive the establishment of a grade line not exceeding 0.5 per cent. Working to this ideal, however, was not felt to be feasible or economical under conditions then ruling in the more rugged country and here instead it was decided to make use of heavier power, notably Mallet type locomotives. On the other hand, while a lighter grade than 0.5 per cent was felt to be feasible in the flat country at the south end of the line it was decided to adhere to uniformity. The result was the following arrangement of grade line and freight engine districts:

	RULING EQUATED GRADE		
	Miles	Northbound	Southbound
Kansas City-Pittsburg.....	129	0.50	0.50
Pittsburg-Neosho.....	43	0.50	0.50
Neosho-Watts.....	62	1.80	1.80
Watts-Hevener.....	102	0.50	0.50
Hevener-DeQueen.....	95	1.35	1.50
DeQueen-Shreveport.....	125	0.50	0.50
Shreveport-Leesville.....	110	1.08	1.12
Leesville-Port Arthur.....	118	0.50	0.50
	786		

For a short distance out of Kansas City, namely to Grandview, the Kansas City Southern uses 7 miles of the Frisco where the ruling grade is 1.6 per cent and pushers are used southbound. The Kansas City Southern has plans under way for building a line of its own between these points. In operating the line turn-arounds are used between Neosho and Watts, the district being from Pittsburg to Watts. Thus there are now seven engine districts; under the former arrangement there had been six, one of which was 179 miles in length. The new arrangement necessitated the abandonment of three engine terminals and the establishment of four new ones. The ultimate result was a more economical arrangement of engine runs which assisted in cutting down crew overtime and a better arrangement as between light and heavier power. The grade revision was so extensive that at present, of the total distance of 786 miles between Kansas City and Port Arthur, no less than 66 per cent

is on a 0.5 ruling grade line. By 1917 the locomotive that had been in use in 1909 could have handled 46 per cent greater tonnage either northbound or southbound. But beyond that the road also purchased larger power, commencing in 1912 with the acquisition of 12 Mallet, 8 Pacific and 15 heavier Consolidation locomotives. The average tractive effort of the power in service in 1917 was 33 $\frac{1}{3}$ per cent greater than it had been in 1909 which with the grade revisions made the relative capacity of the average locomotive in service in 1917, 80 per cent greater than in 1909 when the rehabilitation program began.

Other Physical Improvement

The Kansas City Southern shows in its annual reports detailed statistics of its physical makeup. In this connection the following selected figures will be of interest:

	June 30, 1905		Dec. 31, 1917		Dec. 31, 1925	
	No.	Length in ft.	No.	Length in ft.	No.	Length in ft.
Bridges						
Steel	231	19,225	289	22,762	327	23,886
Concrete .....	...	...	2	225	3	252
Wood	3	66	...	...	...	...
Combination	3	213	1	87	1	87
Trestles, Wood...	593	96,377	307	64,786	298	62,195
Culverts						
Stone & concrete...	354		689		722	
Cast iron pipe...	233		592		610	
Concrete pipe...	...		118		227	

A familiar structure on the road is the ballasted deck trestle. The road is using a high grade washed gravel ballast for much of its mileage. There is a considerable quantity of chats and in the soft soil at the southern end there remains an extensive mileage of oyster shell ballast as on the other roads serving the same territory. The road's standard weight of rail for many years was of 85-lb. weight. More recently a 100-lb. section has been



Station at Sulphur Springs, Ark., Typical of Many K. C. S. Stations

used at many points and at the end of 1925 of the total owned main line mileage of 777, 37 miles was of 100 lb. weight and 731 of 85 lb.; at the same time 772 miles had 6 inches or more of ballast under the ties. Considerably over one-half of the cross ties in main track are treated ties.

Heavy Power

The Kansas City Southern is noted for its use of heavy power. The average tractive effort of its freight locomotives at the end of 1925 was 63,417 lb. (comparing with 54,524 lb. at the end of 1924). Some idea of the size of this figure may be gained by the fact that the average tractive effort of the freight locomotives of the

Chesapeake & Ohio at the same time was 53,820; of the Norfolk & Western, 60,664; of the Pittsburgh & Lake Erie, 54,061; of the Virginian, which seems to be the leader in this respect, 78,119. The Kansas City Southern in the first nine months of 1926 secured an average train or net tons per train of 867, the highest figure in the southwestern region and comparing with the region's average of 630. In the entire western district there were five roads with as heavy train load as the Kansas City Southern; most of these, however, were favored by having a great tonnage of coal or iron ore, whereas, the Kansas City Southern tonnage is rather diversified. The Kansas City Southern reported for the same period an average train speed of 13.2 comparing with the southwestern region's average of 12.9. The gross ton-miles per train-hour totaling 25,803 compared with the region's average of 19,712, and were second, but the net ton-miles per train-hour, totaling 11,415, were first in the region. Other interesting statistics were 108 lb. of coal (or its equivalent) per 1,000 gross ton-miles; 46.2 car miles per day; 79.6 locomotive miles per day, only 3.7 per cent unserviceable freight cars and but 8.7 per cent unserviceable freight locomotives.

Traffic Density

The road has one of the heaviest traffic densities of any road in the western district. One of the several ways of indicating this is to say that in 1925 the net ton-miles per mile of road per day totaled 5,482. Figures reported by some of the other important roads in the Southwest were: Katy, 3,178; Gulf, Colorado & Santa Fe, 3,694; St. Louis-San Francisco, 3,027, or St. Louis Southwestern, 2,625. The Kansas City Southern's larger figure comes from its 95 per cent main line mileage. It shows, however, that this main line is getting the traffic even with the lack of feeders owned by the company and that the road is in an important strategic position in its territory.

The latest report of 1926 earnings—that for November and the 11 months' period—shows that in 1926 the Kansas City Southern had gross income about 5 per cent greater than in the same period of 1925. Its operating expenses were about the same and net operating income of \$4,643,942, including the Texarkana & Fort Smith, compared with \$4,130,075 in the first 11 months of 1925, showing an increase of 12½ per cent. The net operating income for 11 months of 1926 was greater than the total for all 12 months of 1925 in which year net operating income totaled \$4,493,426 and in which year the road earned after fixed charges and preferred dividends \$4.25 a share on the common stock. The operating ratio for the first 11 months of 1926 was 66.1 per cent; for all of 1925, 72.6.

The Kansas City Southern's capitalization includes \$53,055,236 long term debt, inclusive of equipment trust securities, \$21,000,000 preferred stock and \$29,959,900 common stock. In 1925, interest charges were earned twice over. The preferred stock receives 4 per cent dividends; none have ever been paid out on the common stock.

AVIATORS OF THE AIR MAIL SERVICE on December 16, broke all previous records for speed between Chicago and New York, the flying time, through, being reduced to four hours, twenty minutes; equal to 167.3 miles an hour.

"FARMING TAUGHT BY MAIL" is one of the enterprises of the Canadian National Railway. To aid men in England who may emigrate to Canada, the company has instituted an agricultural training course and it is said that hundreds of men have taken the course. Individuals thus trained have proved very satisfactory employees.

Report on Hendersonville and Fountain Head Accidents

WP. BORLAND, director of the bureau of safety, Interstate Commerce Commission, has made a report on the derailment on the Louisville & Nashville at Hendersonville, Tenn., on November 16 (5:47 p. m.), when southbound passenger train No. 99 was partly derailed because of the loosening of a switch that was hit by the wreck of an automobile which, being caught on the track, was struck and demolished by the train, which was moving at about 50 miles an hour. The two persons in the automobile were killed and 12 passengers and four dining car employees on the train were injured. The locomotive (and tender) of the train did not run off the rails and stopped after running a quarter of a mile. The first car—a combination club and baggage car—was derailed but nevertheless remained coupled to the locomotive.

The inspector finds that proper whistle and bell signals had been given from the train and that the driver of the automobile neglected the simplest precautions; and, moreover, he was violating a state law which requires a stop to be made before passing over a railroad at grade. Also, there was an automatic wigwag signal which gave notice of the approach of the train. The locomotive headlight was burning brightly. The occupants of the automobile were residents of the vicinity and presumably were familiar with conditions at the crossing.

Collide in Moonlight

Following this derailment, there was a collision of trackmen's motor cars at Fountain Head, 23 miles north of Hendersonville, in which six employees were killed and 14 injured, one of the six being the foreman in charge of the southbound motor car. This occurred at 8:45 p.m. when there was good moonlight. Foreman Ashworth, with a crew of nine laborers, was proceeding southward toward the scene of the derailment of train No. 99 and was moving at from 20 to 35 miles an hour when the car collided with northbound motor car No. 40 on which were Foreman Hindman and nine laborers. Poor judgment on the part of Foreman Hindman in moving northward when he had been instructed to proceed southward to Hendersonville, is given as the main cause of the collision, but Foreman Ashworth, southbound, was exceeding the prescribed speed limit. Foreman Hindman said that he was going north, in order to get more men at Portland and also to get more definite information as to his duties, though he already had as many men as the rules would permit him to carry on his car.

As to whether both cars were properly equipped with lights, both front and rear, the evidence was conflicting. The rules require that motor cars shall be operated at all times so that they can be stopped within one-half the range of vision, which rule, strictly interpreted, would make it next to impossible to use these cars at night, except at an extremely low rate of speed. The report raises the question as to whether there should not be more stringent rules governing the operation of cars of this kind. It is suggested that a section foreman ought generally to have the right to move on his own section where he pleases, so far as concerns opposing motor cars; but when off his own section, it is a question whether the car can move with safety except by regular train orders.

An Analyst's View of the New Accounting Classifications

Believes amplification of revenue and expense accounts might help justify present large accounting costs

By Joseph L. White

THE Interstate Commerce Commission has recently made public a tentative revision of the accounting classifications prepared by its Bureau of Accounts in co-operation with the Railway Accounting Officers Association. A comparison of the present and proposed classifications was made in the *Railway Age* of December 4, and the writer agrees with the conclusion therein expressed that the proposed revision contains no particularly striking or radical changes in the present scheme of railroad accounting.

The committee on general accounts of the Accounting Officers Association, however, in reporting on the tentative revision of the classifications to the members, indicated that it had suggested further changes. It did not add that if these changes were adopted by the commission, they would completely revolutionize the present method of classifying operating expenses both as to general and primary accounts.

Many analysts of railroad operations think that there is no occasion to make any substantial changes in the present method of classifying revenues and expenses and that the records of the carriers contain the basic information necessary for a comprehensive analysis of railroad operations. They feel, however, that this basic information should be made available to the analyst who does not have access to the railroad records by including the essential data in the monthly or annual reports to the commission.

In view of this wide divergence of opinion with respect to the present system of classifying and reporting operating revenues and expenses, it would seem appropriate to consider at this time just what purpose those particular classifications are intended to fulfill and how well they accomplish that purpose.

Purpose of the Classifications

of Revenues and Expenses

The purpose of the classifications of operating revenues and operating expenses is to provide such subdivisions of Income Account 501, "Railway operating revenues" and of Income Account 531, "Railway Operating expenses" as are necessary to determine for any railroad or group of railroads.

First: The sources of the revenues and the causes of the expenses.

Second: The reasons for any fluctuations in revenues and in expenses in one period as compared with another.

It is not the railroad officers alone who are interested in making such an analysis. Investors in railroad securities, the shipping and traveling public, the Interstate Commerce Commission and the state commissions are all, for various reasons, deeply interested in the amount of the net revenue from operations and in the causes of any fluctuations therein. The demand for accurate analysis of the causes of these fluctuations is, therefore, insistent both inside and outside of official rail-

road circles. The question thus resolves itself into what information is required for these analyses, and to what extent it is now available.

Statistical Requirements of the Railroad Officer

It goes without saying that the railroad officers require more detailed information for the purpose of analyzing fluctuations in revenues and expenses and of exercising statistical control than the other parties named above. While the latter are interested in general causes of fluctuations in the revenues and expenses of the railroad as a whole, the railroad manager must be in a position to localize these general causes in order to apply whatever remedy is required.

For this reason the records must be kept in such a way that changes in total revenues or expenses can be allocated not only to divisions or departments but also to the specific operations responsible.

While the Interstate Commerce Act gives the commission the authority to prescribe in detail just what basic records, memoranda, etc., the carriers shall keep, this authority has so far been exercised only with respect to the classifications of revenues and expenses by primary accounts for the road as a whole. The further sub-division of these primary accounts and the distribution of revenues and expenses to divisions and departments has been left optional with the roads. The practice in this respect varies greatly. Some roads make an exhaustive monthly analysis of the causes of fluctuations in revenues and expenses by divisions and departments, and develop local unit costs for most of the major operations on the railroad; others practically limit themselves to the statistics required by the commission for the road as a whole.

The roads with the narrowest margin of profit are often those which have developed the most elaborate system of statistical analysis of revenues and expenses. They evidently feel that the accounting expense thereby involved is fully justified.

Leaving aside for the present this detailed analysis of divisional or departmental revenues and expenses, let us first review the general accounting and statistical information which is essential for an analysis of the operating results of a railroad as a whole, whether such analysis be based on the reports to the railroad executives or to the Interstate Commerce Commission; and then examine the data now reported to the commission with a view to determining whether any essential information is missing and if so what changes in the reports may be desirable to supply this deficiency.

Expense of Suggested Changes

In suggesting these changes the writer is not unmindful of the additional accounting expense involved. On the other hand, it must not be overlooked that the railroads are now spending a great deal of money in classifying the revenues and expenses solely for pur-

poses of analysis and that this expenditure in many respects is wasted because the classification is not sufficiently complete for this purpose. In considering the cost of the following suggestions, therefore, due consideration should be given to this feature.

If comprehensive analyses of railroad operations are to be required, would it not be better to add a small percentage to the already heavy expense of classification and thereby make the total expenditure effective, than to continue to spend large amounts for a classification which, at least as reported to the commission, and to the executives on many railroads, is inadequate for the purposes of the analyst? An inadequate classification represents an expense which is difficult to justify.

Requirements of the Analyst of Railroad Operations

The requirements of the analyst of railroad operations as stated in the following paragraphs represent the information which the writer has found it essential to have in order to furnish an adequate and accurate explanation of the causes of fluctuations in revenues and expenses, whether such explanation is for the benefit of railroad executives, investors in railroad securities or members of the Interstate Commerce Commission.

First as to revenues, the analyst requires a detailed classification of the sources of the revenues arising from the operation of the railroad. This detailed classification forms the basis for a comparison of the revenues of the carrier during the accounting period under consideration with its revenues in previous accounting periods. It also forms the basis of similar comparisons of the revenues of different carriers.

The next step in the analysis is to ascertain the causes of the principal fluctuations in these different items of revenue developed by the foregoing comparison.

These fluctuations in revenues are due either to differences in the rate per unit of service or in the quantity of service performed. The traffic statistics should, therefore, provide the units of service performed classified so far as practicable on the same basis as the revenues so that the average rates per unit of service can be determined.

Amplification of Classification of Revenues

The classification of revenues and the traffic statistics meet these requirements in a general way so far as freight and passenger revenues are concerned. It should be noted, however, that Account 101 "Freight" contains about 74 per cent of the revenues of the average railroad and that no subdivisions of this account are provided to aid the analyst in studying the fluctuations. It is true that the statistics of tons of freight handled applicable to this account are divided into 70 classes under the I. C. C. freight commodity classification but without the freight revenue represented by these different classes the analyst cannot determine the principal sources of freight revenue or the effect of fluctuations in various kinds of freight traffic.

To meet this situation the freight revenue by commodities applicable to the tons originated and received from connections might well be added to the freight commodity statement. This information is now developed by some roads for their own information. It will undoubtedly cost something to prepare but this seems to be an excellent example of the cases cited above where some additional expenditure is necessary to make the data already developed of more practical use.

Some analysts also advocate the addition of ton-miles by commodities to the freight commodity statement. The writer believes that such statistics would be helpful in

analyzing changes in the average revenue per ton-mile but he is not entirely certain that in this case the additional expense would be justified. There may also be some danger as suggested in some quarters that misleading comparisons will be made of the average revenue per ton-mile of individual commodities. The question is, however, worthy of further consideration.

A similar criticism as to the absence of subdivisions applies to Account 102, "Passenger" which contains about 17 per cent of the revenues of the average railroad. It is interesting to note that these two accounts (101 and 102) contain about 91 per cent of the operating revenues whereas 37 accounts are used to report the remaining 9 per cent of the revenues. It is true that the monthly traffic statistics reported to the commission give a division of passenger revenue between commutation and other passenger revenue but the classification of operating revenues does not provide specific sub-accounts for these items and they are not included in the traffic statistics contained in the annual report to the commission or in the annual reports to the stockholders of most of the railroads.

To facilitate analysis of passenger revenues, the following subdivisions of Account 102 "Passenger" are suggested together with similar subdivisions of passengers carried and passenger miles:

ACCOUNT 102, "PASSENGER"

1. Revenue from Coach Passengers.
 - a. at regular rates (including excess fare)
 - b. at commutation rates
 - c. at excursion or other reduced rates
2. Revenues from Pullman Passengers.
 - a. transportation (including excess fare)
 - b. surcharge
 - c. contract receipts from or payments to Pullman Co.*

* These items are now included respectively in Account 108, "Other passenger-train" or in Income Acc. unit 538, "Rent for passenger train cars."

It is suggested that this information be added to the passenger traffic statistics and included in the annual report to the commission. Some roads are now doing something of this kind for their own information.

Classification of Revenues from Transporting Milk

A change should be made in the method of classifying revenues from the transportation of milk. At present Account 109 "Milk," which is classified as passenger service train revenue includes milk which is shipped at rates per package regardless of weights, irrespective of whether it is handled in a passenger service train or a freight train. Similarly milk shipped on a weight basis is included in Account 101, "Freight" without regard to the kind of train in which it is handled.

To remedy this situation, revenue from the transportation of milk in trains classified as passenger service trains should be included in Account 109 "Milk" irrespective of whether the rates are assessed on a package or weight basis. Similarly all revenue from milk handled in freight trains should be included in Account 101 "Freight" irrespective of the basis of which the charges are assessed. Ton-miles applicable to this revenue included in Account 101 "Freight" can be estimated when the charge is on a package basis. This accounting will provide a more accurate determination of freight train and passenger train revenues.

While no units of service performed are reported for the revenue accounts other than freight and passenger, these accounts aggregate less than 10 per cent of the total revenues. The expense of compiling detailed statistics of service performed currently would not seem to be justified. Any unusual fluctuations could be made the subject of a special study.

The foregoing comments have dealt primarily with the revenue accounts. A later article will deal similarly with the expense accounts.

Motor Car Plant Improves Method of Shipping Sheet Steel

Sheets packed in 10-ton units and unloaded at destination with electric trucks in one-twelfth the time originally required

THE handling of sheet steel has always presented a perplexing problem not only to the railroads but to the user as well. Even when prepared for shipment in accordance with the loading rules laid down by the American Railway Association it has not prevented serious damage to the lading and to the cars. With the idea of eliminating, so far as possible, objectionable features of present methods of handling this commodity as well as of inaugurating a method which would enable unloading of this material at destination, intensive study of the problem was undertaken by the Hudson Motor Car Company, Detroit, Mich., which has resulted in the development of the method described in this article.

This new method of shipping and handling sheet steel was devised by R. T. Romine of the Hudson Motor Car Company and is now in use at the Hudson plant. Essentially, the most important feature of the whole scheme is embodied in the binding of the sheet steel in units by means of special equipment. It has been found that the most desirable size of unit approximates 10 tons in weight—four 10-ton units or bundles being placed in the freight car at the steel mill. The outstanding difference in the method of packing the sheets as compared

in under and the load let down upon the platform. Three of the four illustrations show the progressive steps in handling sheet steel by this method. Fig. 1 shows two packs or bundles bound with the adjustable binders. These binders are adjustable to any size bundle and by means of a screw pressure device the pack is firmly clamped together as a rigid unit. The bundle shown at the left in Fig. 1 is merely placed on the floor of the



Fig. 1—Two 10-ton Bundles in the Car Show the Condition on Arrival at Destination—The Right-Hand View Clearly Shows the Method of Supporting the Bundles

with commonly known shipping methods, with the sheets laid flat, is that the sheets are packed on edge, the sheets in each bundle being packed on a pallet made up of a series of wood cross members so that the friction of the lower edges of the sheets will hold the supporting pallet and pack together as a unit.

The principal pieces of equipment used in this method of handling are a pair of adjustable binders which embrace each pack or bundle in the form of a yoke; a stack lifter so designed as to be run over the bundle of sheets in the car and to lift it to a sufficient height that an electric platform truck of special design may be run

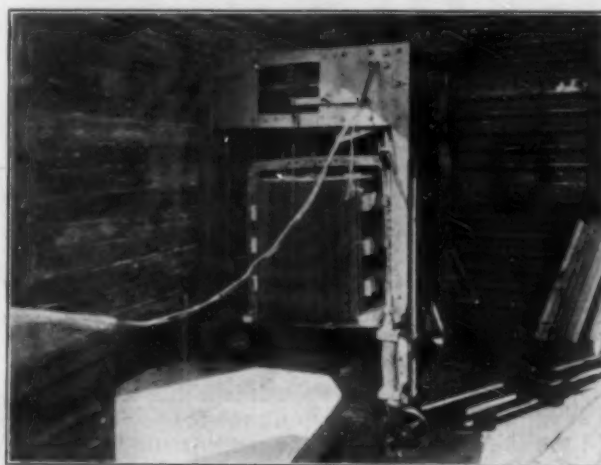


Fig. 2—The 10-ton Bundles Are Lifted From the Car Floor by the Stack Lifter and Lowered Onto the Electric Platform Truck

car without the supporting pallet whereas the bundle at the right has been prepared for shipment by placing the wood cross members and longitudinal side members in such a manner that the bundle is not secured in any way to the floor of the car but, with its supporting pallet, is free to float back and forth between longitudinal guides to compensate for shocks in transit.

This system does away to a great extent, with damage to the floor of the car and the fact that the sheets are packed on edge prevents any relative movement of one sheet in the pack with another. Another important feature is the fact that the packing of the sheets on edge prevents "hickies" or blemishes in the sheets usually formed in transit when the sheets are loaded flat in piles on the floor of the car, by cinders and other foreign particles which lodge between the sheets.

The 10-ton bundles are unloaded from the freight cars at destination as units, each bundle being taken out of the car by means of a stack lifter or portable crane shown in Fig. 2 and a 10-ton electric platform truck shown in Fig. 3. The stack lifter is part of the equipment developed by Mr. Romine and the electric truck is of a special design built for the Hudson Motor Car Company by the Elwell-Parker Electric Company, Cleveland, Ohio.

The stack lifter is made up of an arch shaped frame so designed as to straddle the bundle in the car. It consists essentially of four legs and a connecting frame-

work of heavy steel plate and angle construction. The legs are fitted with spring-braced casters which are capable of supporting the stack lifter without any load but when a load is hoisted the springs on the casters are compressed so that the load will be carried by the legs which distribute it over a considerable area of the car floor. The stack lifter is in effect a portable crane and is equipped with an electric motor hoist with a capacity sufficient to lift easily the 10-ton bundles of sheets. Current is supplied from the storage batteries of the electric truck. On each side near the bottom of the stack lifter are two swinging brackets which may be either swung

erated within a freight car. Another feature of special design to enable these trucks to handle heavy loads is that the load-carrying wheels beneath the lift platform are mounted on a rocking underframe so that the load is always uniformly distributed over the two sets of wheels. This distribution of the load is such that the truck is able to go into a freight car and take out a load of 10 tons of steel without breaking through or damaging the car floor. The bearing surface of the rubber tired wheels in contact with the floor is more than four times that of the iron wheels generally used on four-wheel trucks.

For the purpose of demonstrating the advantages of this new method of shipping and handling steel, a special demonstration was arranged by the Hudson Motor Car Company for a number of railroad and steel men and a number of cars were shipped from the plant of the American Rolling Mills Company at Ashland, Ky.—the steel in some of the cars being loaded in accordance with A.R.A. loading rules and in other cars in accordance with this new method. A number of cars reached the Hudson plant at Detroit on December 14, 1926, and were there inspected by some 35 claim agents and representatives of 14 railroads, as well as representatives from some of the steel plants. The purpose of these test shipments was to compare the way in which the steel arrived under normal conditions. A photograph of one of the cars



Fig. 3—A 10-ton Bundle of Steel Sheets Being Removed From the Car

outward out of the way when it is lifting steel and then swung inward in such position as to bear on the platform of the electric truck when the truck is run in under the stack lifter. In this manner the lifter is delivered into the car and removed from the car.

The Elwell-Parker 10-ton truck is provided with two pairs of wide tread rubber tired wheels beneath a platform and a pair of driving wheels beneath the body housing. These trucks are similar to other electric trucks of the same and smaller capacity used for handling practically every class of material in the Hudson plant. The 10-ton trucks used in this new system of handling sheet steel are equipped with new type patented heavy duty trailing axles. The trucks are designed in such a manner that all six wheels are simultaneously steered about a common turning center, which enables the truck to be turned on a short radius and to be op-



Fig. 4—This Car Was Next to the Car Shown in Fig. 1 While in Transit—The Lading Was Prepared in Accordance with A. R. A. Loading Rules but Reached Its Destination in This Condition

	COST PER TON		
	Old method	New method	Saving by new method
Damage to sheets chargeable against the steel mill.....	\$1.035	\$0.261	\$0.774
Damage to sheets in transit, chargeable against the railroads.....	2.688	.066	2.622
Labor at the steel mill, including handline from the oiling machine to the cars and loading the cars.....	.19	.08	.11
Labor at the automobile plant, unloading and placing under crane.....	.38	.03	.35
*Cost of bracing used in loading cars..... (Including return freight on bracing for the new method)	.325	.31	.015
Maintenance and depreciation of plant equipment at the steel mill.....	.05	.04	.01
Maintenance and depreciation of plant equipment at the automobile plant.....	.04	.03	.01
Freight car damage.....	.416	.....	.416
Totals.....	\$5.124	\$0.817	\$4.307

*Bracing used in connection with the old method was used only once and then scrapped, whereas bracing used by the new method is returnable. Figuring the depreciation on this bracing plus the return freight shows that the cost of this item per ton of steel is \$.015 less by the new method than by the old.

loaded according to A.R.A. loading rules is reproduced in Fig. 4, which shows the condition of the lading when the car reached its destination. An impact recorder had been placed in one car loaded with steel in accordance with the new method. This recorder showed that the car had received three distinct blows or shocks equal to an impact at a speed of between 22 and 25 m.p.h. All of the bundles in the car in which the steel had been prepared for shipment in the new way arrived in perfect condition without any damage to the car or the lading.

Comparative Time and Cost Data

In unloading this freight car containing 40 tons of sheet steel, in four units, it required an average of five minutes per unit with three men, including the truck operators. In other words, the test demonstrated that a freight car containing 40 tons of steel may be un-

loaded by two truck operators and one man in not more than 20 minutes' time. Heretofore, with the most efficient workmen, it required 12 times as long, or approximately four hours to complete the unloading of 40 tons of steel.

Accurate statistics have been compiled as to the comparative cost of handling sheet steel by the old and new methods. The figures representing the cost per ton of steel shipped appears in a table placed on the preceding page.

These figures do not include the enormous manufacturing savings due to the fact that the perfect condition of the sheets eliminates the buffing and polishing of defects and that the stampings can immediately go into paint or enamel without any preliminary work as to finish.

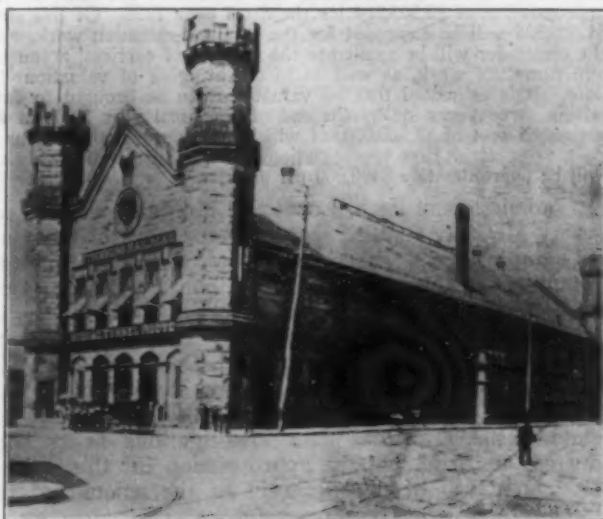
Additional Advantages

In addition to the savings outlined above, the following advantages are also derived from the use of the new method:

(1) Under the old method it was necessary to oil the sheets to prevent scratching the surfaces in handling and in transit. The new method eliminates the necessity of using mineral oil and its consequent burning off, due to the fact that the sheets are held rigidly together. For rust prevention purposes a preparation is used which is soluble in water and may therefore be removed at small expense.

(2) The old method of unloading sheets two or three at a time necessitated much hard manual labor, unloading steel in this manner being considered one of the worst laboring jobs in an automobile factory. This hard work and consequent high labor turn-over is eliminated by the new method.

The method described above is applicable also to the handling and shipping of bar strip steel, effecting a material reduction in handling charges.



Old Boston Landmark Condemned

This is the former Fitchburg Railroad Station at Boston, a massive granite building with octagonal towers at the corners, a familiar railroad landmark for the past 75 years. It has been sold by the Boston & Maine, to be torn down. The ground is to be used by the buyer, the North Station Garage Company, for a six-story building. Plans have been prepared for the accommodation of 600 automobiles. This building fronts on Causeway Street, just east of the present North Station and was built in 1847. Its use as a passenger station was discontinued in 1900 and thereafter it was used for offices.

Consolidation Bill Urged by N. I. T. L.

WASHINGTON, D. C.

HEARINGS on the Fess railroad consolidation bill, which is the same with some modifications as the Parker bill now pending before the House committee on interstate and foreign commerce, were begun before the Senate committee on interstate commerce on January 12 and an effort is to be made to have it adopted as a substitute for the Cummins bill that was reported by the committee last year. Senator Fess made a brief statement regarding the bill, saying that it represented an effort to avoid the controversial features of the Cummins bill and that it avoided all compulsory features but provided for a report by the Interstate Commerce Commission at the end of seven years of its recommendations in the light of the situation then.

R. C. Fulbright, chairman of the legislative committee of the National Industrial Traffic League, appeared in favor of the bill, which he said is now supported, except as to some details, "by the shippers of the United States, the American Railway Association, representing the big railroads, by the short lines and by the Interstate Commerce Commission—every general element in our population that is interested in transportation." He added that the President has three times recommended consolidation legislation and he urged the committee to "get behind it." The bill had originated, he said, "in part with the shippers, in part with the railroads and in part with the Interstate Commerce Commission"; many of the details, particularly those relating to the machinery of consolidation, had been worked out over a period of years by a committee of railroad counsel, who had kept the shippers advised from time to time of their progress, and the latter had considered it carefully with reference to the protection of the public interest.

While he did not think the economies to result from consolidation would amount to so much as some people think, or "enough to result in any big reduction of freight rates," Mr. Fulbright said that some economies would result if the railroads were relieved of the expense of maintaining the separate corporate organizations which are required under the present plan of authorizing merely the acquisition of control. He also said the bill would make it possible for the small and weak roads to be included in stronger systems when the commission thinks they should be included, but that the shippers would regard it as a dangerous precedent if the bill should attempt to have the government fix the price at which a railroad should be taken over.

Two or three suggestions for amendments to the bill would be suggested, Mr. Fulbright said, particularly as to the language which provides for the elimination of wasteful competition, which he said might be open to many different constructions. He proposed a proviso that "existing carrier competition in service shall not be lessened."

Ben B. Cain, general counsel of the American Short Line Railroad Association, said that the commission in its Nickel Plate decision had stated a policy of including provisions in its orders to require the taking over of any short line the commission thinks ought to be included in a consolidation, provided it can be included on reasonable terms. If a company holds out for reasonable terms, he said, the commission may allow the consolidation to go into effect without including the line that is not willing to make reasonable terms.

Mr. Cain and Alfred P. Thom were to address the committee, January 13.

More Money Recommended for I. C. C.

*Budget estimates disregarded to help commission catch up
with its work*

WASHINGTON, D. C.

AN appropriation of \$7,811,314 for the Interstate Commerce Commission for the fiscal year ending June 30, 1928, was recommended by the House committee on appropriations in its report on the independent offices appropriation bill submitted to the House on January 5. This is an increase of \$1,658,157 over the appropriation for 1927 and of \$1,706,157 over the estimate of the Budget bureau, including an increase of \$1,256,889 for valuation work for the purpose of expediting the bringing of the valuation up to date, which it is now estimated can be done by June 30, 1931. The primary valuations are supposed to be completed by June 30, 1928. The total appropriation for valuation work recommended is \$2,563,214, as compared with \$1,427,960 for the present fiscal year. The committee also recommends \$139,500 for the salaries of the commissioners and secretary, \$2,460,600 for general expenses, an increase of \$141,940 over the amount appropriated for 1927; \$1,315,000 for the bureau of accounts, an increase of \$279,731; \$515,824 for safety bureau work, an increase of \$40,824; \$148,320 for the bureau of signals and train control devices, an increase of \$10,000; \$493,856 for locomotive inspection, an increase of \$35,408; and \$175,000 for printing and binding, an increase of \$15,000.

The committee in its report commented on the increase in the work of the commission and the long time required to settle cases, which had been called to its attention by Commissioner Esch and also by R. C. Fulbright and a committee representing the National Industrial Traffic League, and the increase in the appropriation for general expenses was recommended to enable the commission to employ additional examiners and other personnel that may be necessary to expedite the settlement of cases. The increase for the Bureau of Accounts, as well as part of that for valuation, is to enable the commission to keep the work of examining carriers' accounts for recapture more nearly current.

In its report the committee said in part:

Car loadings for the years 1924, 1925, and 1926 were, respectively, 48,374,000, 50,934,000, and 53,000,000. In other words, car loadings of revenue freight for 1926 have averaged over 1,000,000 a week, which is the greatest number on record. This represents the increased business and prosperity of the country but at the same time results in more work for the Interstate Commerce Commission, as indicated by the increased number of formal proceedings filed. In 1924 there were 1,659 formal proceedings before the commission, in 1925, 1,780, and in 1926, 1,809. To dispose of a formal proceeding takes on an average of 635 days, as compared with an average of 109 days for suspension cases. The less important, or board cases, which pass through a section of the bureau of formal cases before consideration by the commission, take an average of 483 days. The delay in the settlement of the shippers' cases is manifestly unjust.

For the bureau of accounts the committee recommends an appropriation of \$1,315,000, an increase of \$279,731 over the amount available for 1927. During the fiscal year 1926 there were docketed a total of 1,413 recapture examination cases, of which 314 were disposed of. It is estimated for the current fiscal year there will be a total of 1,549 cases to be considered, of which all but 810 will be completed. The purpose of the increase in the appropriation, therefore, is to enable the commission to more nearly bring this work current. The work of the Bureau of Accounts consists of the recapture of excess earnings under

section 15a of the transportation act, the policing of carriers' accounts, as provided in section 20 of the interstate commerce act, and the consideration of depreciation charges for steam railroad and telephone companies. The total amount of recaptures paid up to December 1, 1926, was \$6,618,203.43, not including interest, which amounts to \$482,000. This fund is still held in trust, because a large portion of it has been paid under protest, some of which may become the subject of litigation.

The increases recommended by the committee for the bureau of safety, signal safety systems, and the bureau of locomotive inspection, are largely to provide for increased per diem rates as provided by the subsistence expense act of 1926. The act of June 7, 1924, provided for an increased number of locomotive inspectors, for which appropriations were carried in the act for the current fiscal year. As a result of that increase in force, the number of locomotives inspected has increased from 72,279 in 1925 to 90,475 in 1926, and the number of accidents has decreased from 690 in 1925 to 574 in 1926.

For the bureau of valuation the committee recommends an appropriation of \$2,563,214, an increase of \$1,135,254 over the amount available for 1927, and an increase of \$1,356,889 over the Budget estimates. The committee has also provided that the compensation of the director of valuation shall be at the rate of \$10,000 per annum instead of \$9,000. Since the inception of this work in 1913 there has been appropriated to date the sum of \$30,725,294.

When the primary valuation work shall have been completed, work under order No. 3 of the Interstate Commerce Commission, which consists of the policing of carriers' accounts respecting additions, betterments, and abandonments, must continue, as well as the recapture work under section 15a of the transportation act. The estimate of the Budget (\$1,306,325) for the valuation of the property of carriers was the amount necessary to complete the 3-year program of primary valuation work. Further expenditures must be made, however, to bring this valuation to date, and after careful consideration, the committee recommends an appropriation of \$2,563,214 for the fiscal year 1928. Of this sum \$1,306,325 will be expended for the primary valuation work, and the remainder will be applied to the policing of carriers' accounts, and recapture work, as well as to the bringing of valuations to date. It is estimated that all valuations can be brought to date within three years, or by the end of the fiscal year 1931, at an estimated cost of \$7,500,000, of which this appropriation forms a part, after which time appropriations for the Bureau of Valuation will be approximately \$500,000 per annum.

Commissioners Esch, Lewis and McManamy and Secretary McGinty testified regarding the work of the commission before a subcommittee of the appropriations committee on December 27, and John E. Benton, general solicitor of the National Association of Railway & Utilities Commissioners, and the National Industrial Traffic League committee appeared, December 28.

Commissioner Esch described the steadily increasing volume of the work being done by the commission, including the numerous rate investigations being conducted, and said that the appropriation for this year is only one-tenth of one per cent of the amount of the total railway operating revenues.

The commission in 1926 disposed of 150 more formal cases than in 1925, he said, but the time required to dispose of cases that were allotted to the commissioners—the most important cases—was 765 days from the time of filing until a decision was handed down. Cases not assigned to commissioners for the handling of details, although they are passed upon by the commission, required 743 days, while cases which result from investigations made on the commission's own motion have taken 635 days.

The commission has not had enough examiners, Mr. Esch said, and the "throat of the bottle" is the Bureau of Formal Cases, which embraces the attorney-examiners, although he said that part of the delay is on the part of complainants or respondents. Under the appropriation for this year the commission has added 19 examiners since July 1 and it has recently authorized 5 more. With the increase in the appropriation asked for he said it would be possible to employ possibly a dozen more examiners.

After outlining the rate investigations instituted in accordance with the Hoch-Smith resolution as well as others, Mr. Esch said that in addition to the class rate investigations it is the purpose to take up the commodity rates in the light of the resolution.

Motor Transport Report Postponed

While the commission had hoped to get ready a report to Congress for this session of its recommendations as the result of its investigation of motor highway transportation, Mr. Esch said that had turned out to be a "physical impossibility" but it is certain that the recommendations can be filed for consideration by the next Congress. "There was no crying demand for the legislation," he said. "That is, it was not so urgent as one might suppose. But it is a problem that must be met."

Asked about the net operating income of the railroads, Mr. Esch said that for 1926 it would probably be about 5.3 per cent upon "investment cost," but if based on the commission's valuation made in 1920, plus some additions and betterments, "that return might represent an equivalent now of 5.9 per cent."

The commission issued in 1926, Mr. Esch said, 1663 reports, comprising 10,311 pages, or about 14.4 volumes, as compared with a little over 3½ volumes issued by the Supreme Court in a year. In 1926 there were 2,426 formal cases pending before it. It disposed of 150 more formal proceedings than in 1925 and held 43 more hearings.

Examiners, when they go out into the field, hear an average of 20 cases on single itineraries and then they come back to Washington and write their reports. "There is a question," Mr. Esch said, "as to whether or not giving one examiner that number of cases and then requiring him to write reports on that number may not result in less efficient work than if he were given a shorter itinerary with fewer cases. Yet as late as last year we had to assign 45 cases to one examiner to hear on one itinerary."

Commissioner E. I. Lewis told the committee that the railroad valuation work would never be completed because "the railroads are changing, growing properties," but, referring to his previous promises to have the primary valuations as of the inventory dates completed by June 30, 1928, under the three-year program adopted two years ago, he said that all of the tentative reports should be served by July of this year and that there are substantial reasons for believing that the promise will come to a realization "by having all protested cases heard and submitted to the commission by June 30, 1928."

As of the end of 1926, Mr. Lewis said, 929 tentative valuation reports had been served, covering 1,417 corporations and 181,350 miles of main track or 74.2 per cent of the total, while 201 reports, covering 383 corporations and 63,027 miles, remained to be served. Also, of the 63,027 miles, 41,892 are represented by eight systems, the reports on which will be served within the next few months. The eight systems include the Denver & Rio Grande, Erie, Missouri Pacific, New York Central, Southern Pacific, and Union Pacific, which should be served by April, he said, and the Baltimore &

Ohio and Chicago, Milwaukee & St. Paul, which should be out in July.

During 1926, 248 tentative reports were served, while 170 were completed. Also 286 reports had become final by default and 174 by decision, covering 18,172 miles, while 84 final reports, covering 32,456 miles, had been prepared by examiners but not served.

A total of 479 hearings had been completed, covering 108,034 miles, and 89 were partly completed and 276 had not yet been reached. Including reports not yet served on the carriers, 957 tentative reports, representing 191,831 miles, or 78.5 per cent, had been completed by the tentative valuation committee.

After the primary valuation is completed, Mr. Lewis said, the recapture and Order No. 3 work will have to be continued to make revised and corrected valuations to bring them up to date, and the closest estimate of the Bureau of Valuation of the cost to bring the valuations up to date is \$7,300,000, in about three years, as the law now stands. It is also estimated that to keep the valuations current would require about \$450,000 a year after that. The commission had submitted to the Budget bureau an estimate of \$1,200,000 for the fiscal year 1928 for bringing the primary valuations up to date.

If this work is not begun at once, he said, it would be necessary to reduce the present force by \$448,000 on July 1, so the commission desired to save its staff for work in bringing the valuations up to date.

"It is just incomprehensible to us, after we have spent some 30 to 31 millions of dollars of the government's money, and the carriers have spent, they say, \$90,000,000 on top of this, that the whole thing is going to stop with the primary valuation," Mr. Lewis said. If the commission should be allowed the amount of the Budget estimates and \$1,200,000 more, he said, preliminary work would begin on July 1 to bring the valuations up to date. The New York Central had told him that it had spent some seven or eight million dollars on valuation work.

In an effort to cut down the time required for hearings, Mr. Lewis said, most of the valuation work is now done by the conference method, and, whereas the Great Northern case had taken 138 days of hearings, the Santa Fe case had been put through in 12 days of conference on the tentative valuation. To economize, the Commission requires valuation hearings to be held in Washington.

In reply to questions as to the total valuation of the railroads, Mr. Lewis said: "We have a very definite idea now of what the carriers have and it centers around about twenty-two billions of dollars," and that since the commission reported a tentative figure of \$18,900,000 in 1920 there has been added to the properties between three and four billions net.

One of the requests made by the commission and provided for in the bill was for an allowance of not to exceed \$5,000 for expenses, except membership fees, for attendance at meetings concerned with the work of the commission. A ruling of the comptroller-general had held that such expenses could not be charged to the government except for meetings of government representatives. Commissioner McManamy spoke of the advantages to be derived from attendance of representatives of the commission at committee meetings and railway conventions which often made it possible to accomplish in a short time what would otherwise take months and a great deal of travel. He said that he had for years taken time from his vacation and paid his own expenses to attend such meetings.

Mr. McManamy described some of the work of the locomotive safety, signal and service bureaus and said that under the recent decision of the Supreme Court the commission has jurisdiction over the design, the construction and the material of every part of the loco-

motive and tender and all appurtenances; "the bureau may be called upon before very long to prepare amended rules covering such matters as mechanically-operated fire doors, cab curtains, low-water alarms, and some other devices," because the demand for these devices will be transferred from the states to the I. C. C.

Mr. McManamy said that the Budget bureau had cut the commission's estimate for locomotive inspection from \$493,856 to \$470,418 and that the reduction would necessarily restrict the work that could be done. The committee's recommendation restores the amount asked.

In discussing the automatic train control installations Mr. McManamy said that none of the railroads is completely equipped with such devices and that they will not be for many years, but that the Michigan Central is completing voluntarily a division from Jackson, Mich., to Chicago.

Separation of Value by States Asked

Mr. Benton said that he was appearing at the request of President Shaughnessy of the National Association of Railway and Utilities Commissioners to present a suggestion that Congress provide \$100,000 to enable the Interstate Commerce Commission to separate its valuations of the railroads by states. He said the valuation law requires that, but that the commission had taken the position that it did not have money enough to do so. The state commissions intend to bring formally before the commission, he said, the contention that under the law it is its duty to use such appropriations as it has to comply with the law.

In his opinion Congress will be compelled to repeal the provision in the valuation act that the valuations shall be brought up to date "in like manner," that is in the same way they were originally made, which, he said, is not such a bringing up to date as Commissioner Lewis has spoken of, by the "accounting method." If the valuations are made on the reproduction cost basis on the present level of prices, he said, "you will have thirty-five or forty billions of dollars," and the cost will be "several times seven million dollars."

He also presented a suggestion from Mr. Shaughnessy that Congress appropriate \$100,000, to meet expenditures incurred by state commissions in the performance of duties in co-operation with the Interstate Commerce Commission including the cost of reporting hearings held before state commissions at the request of the Interstate Commerce Commission. At the recent annual convention of the state commissioners, he said, the executive committee had discussed a proposal that state officials traveling with respect to transportation matters and authorized by their state laws to travel intrastate without payment of fare, should be allowed to receive like transportation interstate. However it was decided that it was undesirable to make that request of Congress because it might not be understood by the public and might cause criticism. Commissioners from far distant states are put to very substantial expense which their appropriations do not contemplate, he said.

R. C. Fulbright, appearing with a committee appointed at the recent annual meeting of the National Industrial Traffic League, said it is the unanimous opinion of the members of the league that the Interstate Commerce Commission or some such body is "absolutely necessary to protect the shippers against unjust and unreasonable transportation charges" and that the Budget bureau was not sufficiently well informed about the work of the commission to appreciate its need for adequate funds to enable it to perform its duties. He referred to the decision of the commission in the western rate advance case which pre-

vented an increase of \$83,000,000 a year in freight charges and he used the same illustration that Commissioner Esch had used that the expenses of the commission amount to one-tenth of the railroad transportation bill of the country.

Mr. Fulbright said that the shipping public is now waiting two and three years to get a case decided by the commission, although what he called the "railroad cases," involving suspensions of rates proposed by the carriers are handled in 109 days on the average, and that the commission is now about 13 volumes behind in the publication of its decisions because of the deficiency in its printing appropriations.

Mr. Fulbright said his committee had criticised the commission for not asking the Budget bureau for enough money to provide for 25 additional examiners, to enable it to put its work on a current basis, instead of for only enough for 10 or 12 more examiners. The commission had had an increase of 30 per cent in its work in four years, Mr. Fulbright said, but its force of examiners has been increased only from 67 to 70.

"Now we want the commission's cases handled on a current basis. The way they handle those cases today is that an examiner is sent out to hear the evidence in a large group of cases. He makes an itinerary, going around to the various points, and hears those cases. He comes in and starts to work on those cases; but because of a shortage of examiners, the accumulation of other cases, and other shippers demanding a hearing—and the man always wants to get his case heard after it is filed—they will take that examiner off of his work when he has hardly begun to assimilate and work out some analysis of these cases and send him off on another round, and he gets another group of cases, while the first are laid up on the shelf to become more or less forgotten, and finally he has such a mass that his mind becomes confused; he does not do the work that he ought to do; we do not get the kind of reports that we ought to get, because no man can carry 50 or 75 of those things and do any good with them."

The commission has five grades of examiners, he said, the first two of which are in "the nature of apprentices," while grades 3, 4 and 5 are qualified to handle formal cases and their average salary is \$4,433.

The committee recommended that the commission be allowed an increase of \$103,540, instead of the \$50,000 asked by the commission, to enable it to employ 10 field examiners at an average of \$4,433 each, five office examiners, at an average of \$2,700 and 10 junior examiners, at an average of \$2,111, with the necessary amounts for stenographers and traveling. "In the eyes of the shippers," he said, "this work of handling our litigated cases is ten times more important," than the valuation work for which \$1,200,000 more was asked.

Asked whether the representatives of the shippers had appeared before the Budget bureau, Mr. Fulbright said: "We would like for the director of the Budget to give us a complete hearing from the standpoint of the people in the country who are paying this bill. We did request at once, and the result was that they slashed the commission's estimates all up and down, and we came here to you and you gave us a hearing and you restored it. This year I undertook to get before the Budget but I was informed that they did not care to discuss with us their plans."

Representative Newton of Minnesota also urged the importance of adequate appropriations for the commission as the agent of Congress, saying that "the director of the Budget, in his contacts with them has, with little appreciation of the nature of their work, simply cut them down."



Three-Cylinder Mountain Type Freight Locomotive Build by the American Locomotive Company for the Delaware, Lackawanna & Western

Lackawanna Buys Twenty-Five Three-Cylinder Locomotives

Now being used in freight service over the heavy grades between Scranton and Hoboken

By S. S. Riegel

Mechanical Engineer, Delaware, Lackawanna & Western

EARLY in April of last year, the management of the D. L. & W. placed an order for 25 three-cylinder Mountain type locomotives with the American Locomotive Company. These locomotives were recently delivered and have been placed in slow freight service. They were purchased primarily to operate over the heavy grades between Scranton, Pa., and Hoboken, N. J., where the ruling grade, eastbound from Scranton to Nay Aug, Pa., a distance of 5.4 miles, is 1.67 per cent, and from Nay Aug to Lehigh, Pa., a distance of 13.05 miles, is 1.21 per cent. Trains are assisted on these grades by two-cylinder Mikado type locomotives. There is, however, another grade of .55 per cent between Slateford, Pa., and Port Morris, N. J., a distance of 28 miles, where the new Mountain type locomotives handle their tonnage unassisted in eastbound movement.

These locomotives develop a tractive force of 77,600 lb. An additional tractive force of 11,200 lb. is provided by a booster, making a total of 88,800 lb. starting tractive force. They have 63-in. diameter drivers. The inside cylinders have a diameter of 25 in. and a stroke of 28 in. and the two outside cylinders have a diameter of 25 in. and a stroke of 32 in. The boiler operates at a pressure of 200 lb.

The new three-cylinder locomotives are a development from two other classes; namely, the Mikado locomotives, referred to in a preceding paragraph as being used in pusher service between Scranton and Lehigh, and five three-cylinder Mountain type locomotives, which were placed in fast passenger service early in 1925. A description of the Mikado type locomotives was published in the March 3, 1923, issue of the *Railway Age*, page 511, and a brief description of the three-cylinder Mountain type passenger locomotives, including data pertaining to the kind of service in which they were placed at that time, was published in the May 16, 1925, issue of the *Railway Age*, page 1201.

A comparison of these three classes of locomotives

is given in one of the tables. From this table it will be observed that the new three-cylinder Mountain type freight locomotives have a tractive force for the main engine of 77,600 lb. as compared to a tractive force of 67,700 lb. for the Mikados. They are equipped with 50 per cent cut-off boosters which have a tractive force of 11,200 lb., as compared to a full cut-off booster with a tractive force of 11,500 lb. for the Mikados. The diameter of the driving wheels of both types of locomotives is identical.

The three-cylinder freight locomotives, however, develop an increased tractive force with a total weight on the drivers of 274,000 lb., operating with a factor of adhesion of 3.54, as compared with a weight on the drivers of 276,500 lb. and a factor of adhesion of 4.08 for the Mikados. Naturally the new locomotives are easier on the track, because the lower factor of adhesion permits more effective use of the weight and they do not slip their driving wheels as readily as the Mikados. This shows that the three-cylinder feature is a distinct advantage in tractive force and in the ease with which, it is observed, such locomotives handle additional tonnage.

The boosters operating on the 50 per cent cut-off principle of steam distribution are economical in use of steam and the locomotive can be operated with the booster engaged for relatively long periods of time without reduction of steam pressure. The booster has been kept in operation in tests from Scranton to Gouldsboro, Pa., a distance of approximately 21 miles, and the steam pressure was maintained without difficulty in handling full tonnage trains.

The cylinder load is divided between two main axles. The middle cylinder is connected by a middle main rod to a crank axle on the second pair of drivers in the usual manner. The outside cylinders are connected to the third pair of drivers. In this way the power is divided between two separate axles and less load is carried by the rails than would be the case were all the

cylinder effort handled by a single main axle; this is also an improvement.

Ten of these locomotives are equipped with Nicholson thermic syphons, two syphons per firebox. Eleven locomotives are equipped with Standard type "B" mechanical stokers, the remaining 14 have Duplex type D-1 mechanical stokers. All 25 locomotives are equipped with Security brick arches set tight against the throat sheet, and each is equipped with the Cleveland low-water alarm, the Ashcroft DA locomotive cut-off control gage, which registers the steam chest pressure and back pressures, B-S drifting valves, Chambers front end throttle valve for superheated steam, the Nathan water column and gage cocks, Type A superheater with the loose

COMPARISON OF THE PRINCIPAL DIMENSIONS OF THE MIKADO AND THE THREE-CYLINDER MOUNTAIN TYPE LOCOMOTIVES

	Mikado Type Freight	Three-Cylin- der 4-8-2, 1925 der Passenger	Three-Cylin- der 4-8-2, 1926 Freight
Service			
Cylinders, diameter and stroke:			
Inside	25 in. by 28 in.	25 in. by 28 in.	25 in. by 28 in.
Outside	28 in. by 32 in.	25 in. by 28 in.	25 in. by 32 in.
Weights in working order:			
On drivers	276,500 lb.	256,000 lb.	274,000 lb.
On front truck	25,500 lb.	66,500 lb.	59,500 lb.
On trailer truck	60,500 lb.	59,500 lb.	60,500 lb.
Total engine	362,500 lb.	382,000 lb.	394,000 lb.
Diameter driving wheels	63 in.	73 in.	63 in.
Boiler pressure	200 lb.	200 lb.	200 lb.
Tractive force	67,700 lb.	61,100 lb.	77,600 lb.
Tractive force of booster	11,500 lb.	.....	11,200 lb.
Tractive force, engine and booster	79,200 lb.	.....	88,800 lb.
Factor of adhesion	4.08	4.2	3.54

finger header, the Superior type E soot blower, Alco power reverse gear, Baker heavy type valve gear, automatic adjustable driving box wedges, the pneumatic firedoor, radial buffer and unit drawbar between the engine and tender, the latest design of narrow type Franklin grease screens and cellars, and the Everlasting Company's blowoff cock and tank valve.

The locomotives are also equipped with engine trucks of the Commonwealth constant resistance rocker type, Delta trailer trucks, Commonwealth cast steel tender frames and rear main cradle frames and Davis tender inside brake beams with Creco four-point supports.

The locomotives are capable of handling 7,000 tons assisted over the heavy grades from Scranton to Lehigh by the Mikado type and unassisted from Lehigh to Hoboken. They have broken in in a most satisfactory manner and bid fair to continue a very satisfactory performance.

DIMENSIONS, WEIGHTS AND PROPORTIONS OF THE D. L. & W. THREE-CYLINDER FREIGHT LOCOMOTIVE No. 2203

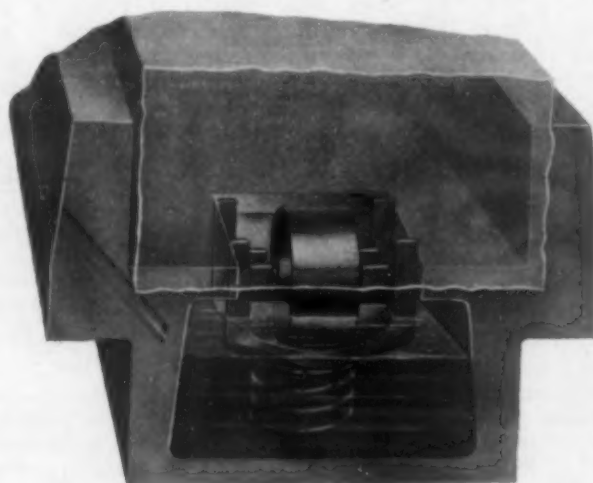
Railroad	D. L. & W.
Builder	American Locomotive Co.
Service	Slow freight
Cylinders, diameter and stroke:	
Inside	25 in. by 28 in.
Outside	25 in. by 32 in.
Valve gear, type	Baker
Valves, piston type, size	12 in.
Maximum travel	7 1/4 in.
Outside lap	1 1/4 in.
Exhaust clearance	3/4 in.
Lead in full gear	7/8 in.
Weights in working order:	
On drivers	274,000 lb.
On front truck	59,500 lb.
On trailing truck	60,500 lb.
Total engine	394,000 lb.
Total engine and tender	609,000 lb.
Wheel bases:	
Driving	17 ft. 6 in.
Total engine	39 ft. 11 in.
Total engine and tender	75 ft. 9 1/2 in.
Wheels, diameter outside tires:	
Driving	53 in.
Front truck	43 in.
Trailing truck	43 in.
Journals, diameter and length:	
Driving	11 1/4 in. by 14 in.
Front truck	7 in. by 14 in.
Trailing truck	9 in. by 14 in.
Boiler:	
Type	Conical

Steam pressure	200 lb.
Fuel, kind	Bituminous
Diameter, first ring inside	90 1/2 in.
Firebox, length and width	120 1/4 in. by 96 in.
Combustion chamber, length	43 in.
Flues, number and diameter	50, 5 3/4 in.
Tubes, number and diameter	285, 2 in.
Length over tube sheets	21 ft.
Grate area	73.2 sq. ft.
Heating surfaces:	
Firebox and combustion chamber	316 sq. ft.
Arch tubes	24 sq. ft.
Tubes and flues	4,590 sq. ft.
Syphons	80 sq. ft.
Total evaporative	5,010 sq. ft.
Superheating	1,292 sq. ft.
Comb. evaporative and superheating	6,302 sq. ft.
Tender:	
Water capacity	12,000 gal.
Fuel capacity	14 ton
General data, estimated:	
Rated tractive force	77,600 lb.
Rated tractive force, with booster	88,800 lb.
Weight proportion:	
Weight on drivers ÷ total weight engine, per cent	69.5
Weight on drivers ÷ tractive force	3.54
Total weight engine ÷ comb. heat. surface	62.4
Boiler proportions:	
Tractive force ÷ comb. heat. surface	12.3
Tractive force X diam. drivers ÷ comb. heat. surface	774
Firebox heat. surface ÷ grate area	4.32
Firebox heat. surface, per cent of evap. heat. surface	6.3

Bronze Self-Oiling Type Gib

A BRONZE self-oiling type of crosshead gib has recently been placed on the market by the More-Jones Brass & Metal Company, St. Louis, Mo. The gib is made interchangeable for the top and bottom guide, the top guide being lubricated by means of a roller in a frame and spring, in the oil chamber, by which means the oil is deposited on the guide face by the movement of the gib.

For the lower guide, the chamber is filled with a pack-



A Bronze Gib with Oil Pocket and Roller Distributer

ing or other absorbent material with a screen placed in the opening, in contact with the face of the guide. The sliding action of the screen on the guide, and the wiping action, by capillary attraction, feeds the lubricant to the guide surface and by this means both the top and lower guides are automatically lubricated, according to the service or operation of the locomotive.

The bronze gib weighs approximately half as much as the iron gib of the same type. Therefore, the initial cost is little, if any more than the iron gib and when the bronze gib is worn out, the salvage value will offset to a great extent the original cost.

Odds and Ends of Railroading

A Bum Steer

"I wanna be an engineer,"
Said Willie to Papah.
"I'll grow up and go 'way from here,
A big, long train of cars to steer,"
Said Willie to Mamah.

Well, Willie grew and got a job,
But not as he had planned.
He went to work on the "Daily Sob,"
Writing headlines for the mob
That "doesn't understand."

But Willie never could forget
He once would steer a train,
And headlines he is writing yet,
Viz: Engineer Steers Train off Wet
Track; Tries to Stop in Vain!

MIKADO

"If we stopped to think," declared Charles Frederick Carter, in a recent address before the Clearfield, Pa., Rotary Club, "we would realize that most of the things critics tell us about the railroads are not so. We know more things about railroads that are not so than about any other subject. Why, gentlemen, if all the articles published about railroads that are not so were laid end to end—I believe most of us would be inclined to let 'em lie."

Two trains on the Illinois Central System between Evansville, Ind., and Princeton, Ky., are manned by a crew of which three men are real veterans of the service. The conductor, M. K. Keirce, has been employed by the Illinois Central System 40 years; the engineer, James Feeney, has been employed 41 years, and the baggageman, Edward Dyer, has been employed 37 years. The crew to which they belong makes a round trip from Evansville to Princeton and back again the same day.

Railway officers have all kinds of problems to solve. What does an anteater eat besides ants? That question seems far from the right-of-way, and yet a superintendent in Missouri was called upon to answer it. A circus train was wrecked, and the superintendent found himself faced with the problem of feeding the animals. The anteater baffled him. He asked the general manager. The latter was interested, but could throw no light on the subject. But the superintendent was resourceful, and two or three days later he wired the general manager: "Have found what anteater eats. He eats cracker-jack."

A camera and an astute claim agent have just saved a western railroad quite a bit of money. A young woman, appropriately named Miss Profit, sued the railroad for \$65,000 for alleged permanent injuries sustained in a collision. A representative of the railroad claim department made the lady's acquaintance. He wooed her assiduously and, in the course of the wooing, took many pictures of her. They showed her engaged in athletic pursuits—riding horseback, playing tennis, swimming and rowing a boat. His file of pictures, presented in court as Exhibit A, resulted in an immediate verdict for the railroad.

That the successful chasing of Colonel Bogey is by no means confined to the white-collar boys has been proved quite conclusively by the results of the golf championship tournaments held the past two years by the Rock Island Lines. In 1925 the premier honors were won by James Hume, a section laborer at Troy, Kansas. Paul Martin, a shop laborer at Trenton, Missouri, won the laurels in 1926. While it is said that Hume was an ex-professional, Martin, as far as can be ascertained, had no such previous affiliations. It is rumored that the indoor

golf schools are resounding with the whacks of sliced drives this winter, as Rock Island officers prepare to try to prove their golf as good as that of the employees.

Someone has expressed the fear that, with the passing of the "boomer," the picturesque tongue known as the railroad language which he made universal all over North America is doomed to degenerate into many distinct sectional dialects. Whether the situation is this bad or not, this department hesitates to judge. However, there can be no doubt that some roads and some sections of the country now have terms which would be quite unintelligible to railroad men elsewhere. Some of these terms have real merit and deserve a wider currency. This department would gladly lend its aid in passing around some of these words and invites railroad men who believe they have some good ones not in general use to send them in. One we have in mind is "Bull Mooser"—a term commonly applied on a certain eastern road (and perhaps on others) to a heavy Mikado locomotive. There must be hundreds of other words in common use in certain sections which are just as expressive.

Speaking of the railroad language, how many American railroad men know the British? A sample couched, not in slang but in perfectly correct English, follows:

(From *The Times, London*)

While the 10 o'clock express from York to Newcastle on Sunday night was travelling at about 40 miles an hour, an axle of the tender broke near Croft Station, about four miles from Darlington. The train was brought to a standstill near Blackbanks, and the engine was found to be partly off the metals. The driver reported that he felt a "bump" when passing over the crossing on the south side of Croft Station, and when he felt a similar bump at Blackbanks he immediately pulled up. An inspection of the line showed that the permanent way had been damaged for a distance of two miles. A piece of steel forming part of the mechanism of the points at Croft was found yesterday 50 yards away from its position. A breakdown gang from Darlington was soon at work, but the line was not available until 11:30 a.m. yesterday. Meantime, north and south traffic was worked on a single line. The passengers of the express had to wait for four hours before they could continue their journey to Darlington and Newcastle.

H. L. Mencken, famed as the critic of the tribe of Babbitts, turns his attention to railroads in a recent syndicated article. On the whole, the railways fare very well. He compliments the adherence to schedule quite highly, stating that in a journey of 7,500 miles of railroad travel recently completed only two of the trains on which he rode were late. One of these occasions was from Los Angeles to Chicago, the train being only one minute late, and the other was a three hours' delay getting into New Orleans due to a wreck. There are certain criticisms made by the "sage of Baltimore" that are interesting. He bewails the fact that the tables inserted between the seats in sleeping cars are of such construction as to render it almost impossible for a fat man to get up with the table in place. He suggests rounding off the ends of the tables. Another suggestion he makes is that a map of the territory being traversed be posted conspicuously. He wants a good map, and criticizes the distorted maps that some railways still use. This very idea is now in effect in Europe in the passenger air service where each plane has conspicuously posted in the cabin maps of the territory being flown over, in which much interest is displayed. He suggests that the literature in club cars is not all that it should be. He believes that guide books giving facts and figures regarding the interesting stops along the line would be a distinct improvement. Another suggestion made is that of having a piano in the dining car at night to entertain the passengers when reading is somewhat difficult. For after-dark entertainment he also suggests movie shows. This practice, while not at all general, has been in effect on some special cars for a short time.

Communications and Books

How Many Roads Use Color on Locomotives?

SPRINGFIELD, Ill.

TO THE EDITOR:

So far as the writer knows there are but three groups of locomotives in the United States other than the conventional black in the matter of color. These are:

Four maroon and red engines on the Chicago & Alton pulling the Alton Limited between Chicago and St. Louis. This is a maroon and red train.

One on the Chicago Great Western, painted red, to match the red train known as the "Redbird" between Minneapolis and Rochester, Minn.

The green and gold engines on the Southern.

A number of articles and editorials have recently appeared in *Railway Age* on the subject. If any of the readers of *Railway Age* know of others the writer would like to be communicated with, either direct or through the columns of the magazine.

Clarence J. Root,
U. S. Weather Bureau.

The Restrictive 19 Order

ROCKY MOUNT, N. C.

TO THE EDITOR:

Railroad men now in middle life have seen the link-and-pin disappear; the air-brake displace the hand brake; automatic block signals installed generally; the telephone put in use for train dispatching in place of the telegraph, and freight trains grow from 25 cars to 125. In looking back over the last 20 or 30 years, contemplating the magnificent record made it seems that we may well ask ourselves, "What are we going to do to compare with it?"

We may occasionally make a great change that will revolutionize railroading, but the chief field of endeavor, which is our ever-present opportunity, lies in perfecting the details of our work, day by day, with the inventions and improvements already provided.

Originally there was only one train order form, that known as "31." Later the 19 form was authorized and was used only for the purpose of advancing trains. About 30 years ago a few roads began using Form 19 for restricting the movement of trains, under certain conditions. Other roads followed and it now appears that the experience of safe operation of trains using this form is crowding out the old 31.

The American Association of Railroad Superintendents at its 31st annual meeting recommended the abolishment of the 31 order. The phrase "abolishment of the 31 order" has frightened a great many good railroad men and this fact, no doubt, has delayed the adoption of a modified use of the 19 form for restrictive trains.

The cost of stopping tonnage trains is well understood by all, and as the trains have increased in length and number the train dispatcher who was not authorized to use the 19 form for restricting rights had to devise various ways to avoid stopping them. Some of these methods may properly be termed "sharp practice," and since the installation of the telephone for train dispatching these practices have grown into abuses that can easily be a great deal worse than any abuse likely to occur in the proper handling of the restrictive 19 order.

For instance: allow the enginemen to sign the 31 order, pull the train of 100 cars up, let the conductor get his copy and proceed. Surely the dispatcher feels that this is safe because he probably talked to the engineman over his telephone about it. This does not avoid stopping the train but it saves ten to twenty minutes' delay to each train so handled. Again, the dispatcher places nearly all meeting orders and wait orders at the point where they take effect and then annuls them if the inferior train clears in time. The superior train then receives no

information of the transaction. On the other hand, if the superior train received a 19 order one or two stations to the rear and on approaching the point of restriction were to find that the inferior train needed another minute or two in which to clear, the engineman could "loaf" and avoid a dead stop.

One big problem the dispatcher has always had and always will have in single-track territory, until he is authorized to use the restrictive 19 order, is handling trains on the road against trains which have not started out of terminals. It is a problem because of the uncertain difference between the schedule or expected leaving time and the actual leaving time. The problem is solved something like this; the train on the road is given an order that will take it a short distance toward the opposing train. The train not out of the terminal gets an order before starting which will not allow it to go beyond a certain station without additional orders against the other train; but there are probably several stations between the two last named stations, one of which will be the actual meeting point. The dispatcher does not know where they will finally meet until he has both trains on the road; but he has them both tied with restrictions or rights so that he can use the 19 form for both trains and advance both. To handle the problem in this way frequently necessitates orders reading differently to individual trains, and often requires three orders to make one meeting point, where one order should suffice. Now, if the train dispatcher has four or five trains each way holding such orders and they begin to fall down and break up his combinations he is liable to become hopelessly tangled. There is then a decided hazard in the multiplicity of train orders to cover each move and in the diverse reading for different trains.

The "restrictive 19 order" is needed only for the purpose of avoiding stops for tonnage freights. The dispatcher can nearly always avoid stopping passenger trains by placing the orders for them at usual stops, but even if he is compelled to stop a passenger, it can usually get away with one-tenth of the delay sustained by a tonnage freight.

Tonnage freights will be almost free to run if the restrictive 19 order is authorized with the following qualifications:

1. The movement of trains carrying passengers must not be restricted on the 19 form.
2. Trains having been previously given time orders against passenger trains will not have their movement against same train restricted on the 19 form.
3. The movement of no train will be restricted on the 19 form if the restriction is effective at the point where order is placed.
4. The 19 form will not be used when the restriction takes effect at a station where there is no operator on duty. (Middle order must be placed.)
5. The 19 form will not be used to restrict in reversing the current of traffic. (Double track.)

Only in case trains have been given too much time on passenger trains will it be necessary to stop them for orders, under ordinary conditions.

The restrictive 19 order has been in use on some roads for nearly 20 years and is still in use. If we think that it cannot be handled properly on other roads, do we believe that some roads are manned by inferior employees? No. The instinct for self-preservation is as strong in men who live in Texas as it is in men who live in Michigan. The intelligence and dependability of the men on the Pacific coast equals what we have in the East. The amount of railroad experience required before a man is allowed to assume a responsible position varies little. Some railroads have postponed too long the adoption of form 19 as here contemplated, and in order to get trains over the road the train dispatcher has been compelled to invent, substitute and devise, with and without approval.

Probably every train dispatcher's office has been required at one time or another to keep a record for several days of the train-order stops made by trains, and such records usually show remarkably few stops. *Why?* If a record had been kept of the number of times the dispatcher whipped the Devil around the

stump in order to avoid such stops and it had shown exactly how in each instance it was done, such record might quickly have brought the authority to use the 19 form to restrict. If you are not using this order now, *what are you doing?*

M. L. SEVERANCE,
Train Dispatcher, Atlantic Coast Line.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian,
Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

Biennial Census of Manufactures 1923, compiled by U. S. Bureau of the Census. "Transportation equipment, air, land, and water," p. 1014-1082. "Railroad repair shops," p. 1083-1096. 1454 p. Pub. by Govt. Print. Off., Washington, D. C. \$1.75.

Cars of Revenue Freight Loaded 1926-1918, compiled by Car Service Division, American Railway Association. Car loadings shown in totals for each week in the years noted. 9 p. Pub. by Car Service Division, American Railway Association, Washington, D. C. Apply.

Price-Fixing by Governments 424 B.C.-1926 A.D.—A Selected Bibliography, compiled by Mary G. Lacy, Annie M. Hannay, and Emily L. Day. *Agricultural Economics Bibliography No. 18*. Includes some references on principles of price-fixing and on price-fixing by private organizations, and is so well annotated that reading it through provides an informing excursion into the history of production, consumption, and to some extent the transportation of commodities of commerce from the times that grain was transported by the backload to the present methods. Indexed by commodities, countries and subjects. 149 p. Pub. by Library, Bureau of Agricultural Economics, U. S. Dept. of Agriculture, Washington, D. C. Apply.

Future of the Railway Supply Business, by Roy V. Wright. Address at annual meeting of Railway Business Association. 12 p. Pub. by Railway Business Association, Philadelphia, Penna. Apply.

Periodical Articles

American Railway Rates, by Lee G. Lauck. Remarking on the difficulty of making fair comparisons between rates in various countries, the author presents, with comment, average receipts per ton—and per passenger-mile for the United States and ten other countries for the years 1913 to 1925 inclusive. *Trade Winds*, December 1926, p. 20-24.

Appliances for Braking Wagons in Marshalling Yards Controlled from a Distance, by L. Cadis. Experiments with car retarders in the Narbonne and Bordeaux yards of the Midi Railway, France. Illustrated. *Bulletin of the International Railway Congress Association*, December 1926, p. 1063-1073.

The Change of Viewpoint in the Machine Shop, by A. L. DeLeeuw. "... one of the outstanding improvements of later years has been the turning away from purely individual practice to well-founded theory; the gradual change from machine-shop practice as an art to machine-shop practice as a science," p. 39. *Mechanical Engineering*, January 1927, p. 37-39.

Express Traffic More Diversified, by J. J. Lawler. Handling among other things, silver foxes, imported chestnuts, race-horses, ten-ton machines, elephants, carloads of eggs, etc. in the course of daily work. *Express Messenger*, January, 1927, p. 3-4.

Freight Problems Get Study. The annual report of the Transportation Committee, Associated General Contractors, considers the relationship between railroads and the construction industry. *Constructor*, January, 1927, p. 41-42.

New England Railroads Improve Financial Position in 1926, by C. E. Williams. *Financial Digest*, December 1926, p. 18-20, 25.

Statistics of Rail Breakages During the Year 1925, compiled by International Railway Congress Association. Statistics for 13 United States railroad systems are included in this compilation which presents details of age and weight of rail, number of fractures, maximum wheel-loads, etc., furnished by railway systems in various parts of the world. *Bulletin of the International Railway Congress Association*, December 1926, p. 1129-1191.

Looking Backward

Fifty Years Ago

During the year 1876, 105 railroad companies laid track on 2,442 miles of line, increasing the total length in the United States to 76,640 miles, which gives one mile of railroad for every 600 inhabitants.—*Railroad Gazette*, January 19, 1877.

The Chicago & North Western is building four new hotel cars to be run on its line between Chicago and Council Bluffs. In addition to the usual sleeping and day accommodations these cars have kitchens and are provided with all the necessary conveniences.—*Railroad Gazette*, January 19, 1877.

Charles Francis Adams, Jr., has written an "open letter" to Senator James A. Garfield urging him to introduce in Congress a measure providing for a national bureau of railroad statistics, in connection with the Department of the Interior. He suggests that this bureau consist of two officers, one an accountant and statistician, and the other a railroad expert and engineer.—*Railway Age*, January 18, 1877.

Twenty-Five Years Ago

The Chicago, Milwaukee & St. Paul is preparing to double-track its line from Milwaukee to La Crosse, Wis., 197 miles.—*Railway Gazette*, January 17, 1902.

At the Interstate Commerce Commission hearing at Chicago on January 7, 1902, witnesses representing nine different railroads admitted having carried freight at secret rates lower than the tariff; and, at great length, gave particulars confirming substantially all that has been published in the shape of rumors and unconfirmed statements about illegal rate cutting. The most of the irregularities spoken of in the testimony were in connection with dressed beef and packing house products for export.—*Railway Gazette*, January 17, 1902.

"Careful examination of the railroad problem from a national standpoint will show beyond question that the business of the country has outgrown the facilities on most of the trunk lines," said James J. Hill, president of the Great Northern, speaking before the Tri-State Grain and Cattle Growers convention at Fargo, N. D. "Today we find the volume of traffic so great east of Chicago that the railroads are unable to move it under the present conditions. The public must bear in mind that a bankrupt road cannot furnish good service."—*Railway Review*, January 18, 1902.

Ten Years Ago

Daniel Upthegrove, assistant general solicitor of the St. Louis Southwestern, has been appointed general solicitor of the same railroad system.—*Railway Age Gazette*, January 19, 1917.

The Union Pacific recently discontinued serving liquor on dining cars in Wyoming although there is no restriction on its sale in that state. The action of the Union Pacific makes the entire region from Chicago and the Mississippi river to the Utah and New Mexico state lines "dry" from a railroad standpoint.—*Railway Age Gazette*, January 19, 1917.

Frederic A. Delano, member of the Federal Reserve Board, said in speaking before the annual dinner of the Railway Business Association: "The railways as a whole must be self-sustaining; they must return a sufficient revenue to attract the requisite new capital to meet, year by year, the public requirements for additions, betterments and improvements. There must be such publicity in matters of railway finance and expenditures that the whole public shall know what is being spent, why it is spent and how the expenditure is financed."—*Railway Age Gazette*, January 19, 1917.

NEWS of the WEEK



Photo by H. F. O'Neil

THE INTERSTATE COMMERCE COMMISSION has issued its final valuation report on the Delaware & Hudson, finding final value for rate making purposes to be \$95,834,979 for property used as of 1916.

WAGE INCREASES of three cents an hour have been granted to the federated shop crafts of the Chicago, Milwaukee & St. Paul and the Chicago & North Western. The agreement with the employees of the former road is retroactive to December 15, while that with the latter is effective January 1.

THE TRANSPORTATION CLUB of Peoria, Ill., will hold its annual dinner in the Pere Marquette hotel on January 25. The speakers for the occasion will be F. W. Sargent, president of the Chicago & North Western, and E. C. Heidrich, president of the Peoria Cordage Company.

THE NATIONAL RAILWAYS OF MEXICO are facing threats of a general strike by unionized employees. Large numbers of mechanical department employees have been out for some time and the threat of the general strike is based on the failure of the railways to reach a satisfactory settlement with the striking shopmen.

HARLEY W. BRUNDIGE, chairman of the Railroad Commission of California, and L. O. Whitsell have been reappointed as members of that body for the six year term ending December 31, 1932. Ezra W. Decoto has been selected as chairman for the year 1927 following a decision to rotate the chairmanship among the members.

THE OLYMPIAN of the Chicago, Milwaukee & St. Paul, westbound, was derailed about 49 miles west of Missoula, Mont., on January 6, with the result of one person killed and four injured. The rear section of the train left the track, seven cars being overturned. According to the railroad, the accident was caused by a spreading rail.

EXTENSIONS OF TIME to July 1 for the completion of installations of automatic train control have been granted by the Interstate Commerce Commission to the Galveston, Harrisburg & San Antonio and

the Delaware, Lackawanna & Western under the commission's second order and to the Chicago & Alton under the first order.

AN APPROPRIATION of \$48,852 is provided by bills which have been introduced in Congress by Senator Warren and Representative Newton, to enable the Secretary of the Treasury to refund the amount of interest erroneously collected from railroads in connection with overpayments or partial and advance payments on account of their guaranty for the six months following the termination of federal control.

THE INTERSTATE COMMERCE COMMISSION has announced that it has been advised by C. H. Stein, assistant to the president of the Central of New Jersey, that it has placed in effect the recommendation made in the commission's report on the accident at Bethlehem, Pa., on September 27, that all train movements of the Central of New Jersey be brought to a stop before passing over the tracks of the Lehigh Valley, at the point where the lines cross.

MEASURES FOR INSURING SAFE DRINKING WATER on interstate railroads are meeting with better results each year, due to the increasing appreciation of the value of this work by the railroad and steamship companies, according to a statement to the press by Surgeon General Hugh S. Cumming, of the United States Public Health Service. The railroads generally, he said, have practically finished the installation of a new type of water coolers for passenger cars which completely separate the ice and the drinking water.

THE RAILWAY BUSINESS WOMEN'S ASSOCIATION of the Twin Cities gave a Christmas dinner on December 18, at which Miss Myrtle Y. Miles, of the agricultural relations department of the New York Central, was the principal speaker. Miss Cora Nelson, president of the Railway Business Women's Association of Chicago, was a guest of honor. Miss Miles spoke on "The Woman Behind the Schedule." "There was that time," she said, "when women were a curiosity in a railroad office, and then as years went on they were em-

ploied as stenographers and clerks. Today they are filling the more important positions which are opening up to them more and more." She also referred to the importance of the mother, wife and daughter of the railroad man in railroad work.

THE GOVERNOR OF NEW YORK, in his annual message to the Legislature, calls attention to the failure of the Public Service Commission to secure the elimination of highway grade crossings of railroads in the rural districts, the cause of this being the refusal or neglect of the small towns to join in proposed changes at crossings because of the heavy financial burden which would be thrown upon their tax payers. The governor calls for a conference between the legislature and the executive with a view to finding a way out of this difficulty.

THE SUPREME COURT of the United States on January 10 affirmed without opinion a decision of the district court for the southern district of New York which had dismissed a petition of the New York, Ontario & Western to set aside the commission's tentative valuation of its property. The company had objected to the commission's action in reopening the valuation case, after the close of the formal hearing on the company's protest, to hear further testimony, on a question not protested by the company, introduced by the Bureau of Valuation, as a result of which the tentative valuation was reduced.

Grade Crossing Elimination in New York

The Public Service Commission of New York, in its annual report to the legislature, says that under the law calling for the expenditure of \$300,000,000 for the elimination of grade crossings, the commission has, in the first year, now closing, taken action looking to the elimination of 481 crossings; but in the cases of 67 of these crossings no action will be taken, the municipalities having claimed their exemption under the clause which forbids excessive taxation for this purpose. Orders definitely directing elimination have been issued in 25

cases involving 61 crossings. The estimated cost of the work thus far undertaken will exhaust the appropriation made last year, \$20,000,000; and the commission recommends a further appropriation of \$10,000,000.

New York Railroad Club Meeting

An unusual type of program has been scheduled for the meeting of the New York Railroad Club on Friday evening, January 21, at the Engineering Societies' building, New York. W. E. Woodard, vice-president of the Lima Locomotive Works, Inc., will present the subject of "Modern Locomotive Design and Its Influence Upon Railway Operation," using motion pictures to tell the story.

Boston & Maine Enginemen's Controversy Referred to Mediation Board

The differences between the Boston & Maine and its enginemen and firemen, over the recent extension of the runs of passenger enginemen, were the subject of a conference in Boston on January 12; and at the close of the conference the officers of the road and those of the two brotherhoods joined in a request that the United States Board of Mediation lend its good offices to compose the differences. The telegram asked the board to take prompt action.

Railway Women's Clubs on the St. Paul

Scholarship funds to help children of railroad workers have been established in 44 local units of the Chicago, Milwaukee & St. Paul Railway Women's Club, which was organized 2½ years ago by Mrs. H. E. Byram, wife of one of the receivers of the road, upon the suggestion of Mrs. Carpenter Kendall, editor of the employees' magazine. The purpose of the club is to further social contacts through philanthropic work among the families of railroad men. Under the leadership of Mrs. Byram the idea has spread until at the present time 6,000 women are enrolled. Each club has established a "Lydia T. Byram scholarship" and the money has been put to many uses. Some of the clubs are building houses of their own where the women can congregate to sew for those who need clothing. Some also have circulating libraries.

Railway Construction in Canada Discussed in Parliament

A considerable controversy has already arisen in political circles at Ottawa this session, and the storm center is, as it was three years ago, the branch-line construction program of the Canadian National to be introduced later in the session. Last week an attack was made on Charles Dunning, Minister of Railways and Canals, by Senator Gideon Robertson, a prominent Conservative and a former Cabinet Minister, who said:

"I look forward to a short session of Parliament. It looks as if the transportation issue would play an important part.

As far as I can see, Hon. Charles Dunning, the Minister of Railways and Canals, is not much in sympathy with the Canadian National Railways. He has cancelled the contract for construction of a big hotel in Vancouver, which was to have been operated by the publicly-owned railway system, and he has cut the Canadian National Railway branch line program to the minimum, although the Canadian Pacific Railway is coming forward with quite an ambitious plan for additional feeders."

Time Extended for Train Control Installations

The Interstate Commerce Commission has granted extensions of time to several additional railroads to July 1 in which to complete their installations of automatic train control as required by its orders of June 13, 1922, and January 14, 1924. The Richmond, Fredericksburg & Potomac was given an extension under the first order, the West Jersey & Seashore, the Pennsylvania and the Pittsburgh, Cincinnati, Chicago & St. Louis under both the first and second orders, and the New York, New Haven & Hartford; Chicago, Milwaukee & St. Paul; Erie and Louisville & Nashville under the second order.

Wage Statistics for October

The Interstate Commerce Commission's summary of reports of wage statistics of Class I roads shows a total of 1,866,115, employees as of the middle of October, 1926, an increase of 10,922, or 0.6 per cent, over the number for the previous month. The total compensation \$263,068,531 shows an increase of \$8,804,010, or 3.5 per cent, due mainly to the fact that September, 1926, had one less working day than October, 1926. The number of employees reported in October, 1926, in comparison with the returns for the corresponding month last year, shows an increase of 2.7 per cent. The compensation increased 2.0 per cent.

N. C. & St. L. Courtesy Contest

M. D. Rothe, an instrumentman in the division engineer's office at Chattanooga, Tenn., won the \$50 first prize in the Nashville, Chattanooga & St. Louis essay contest on courtesy conducted among employees for the purpose of promoting courtesy throughout the company's lines. Nine prizes were awarded, three for the system as a whole, one for each of the five divisions of the system, and one for a group made up of the general offices, Nashville shops and Nashville terminals. A total of 195 papers were submitted. Mr. Rothe's essay follows:

"Every person I see is a possible passenger, every movable object potential freight. When I deal with an outsider I must consider that for that moment, at least, I am the whole railroad to him. He does not see, nor is he interested in, the hundreds of other cogs in the great transportation machine. To him I am the railroad, and whether he likes this railroad better than another largely depends upon me. No transaction is too small to require courtesy, none so large that it may be overlooked. Collecting a dollar under-charge

may mean as much in terms of good-will as prompt handling of a train. So—I am my railroad's general agent. It's up to me."

Oregon, California & Eastern Opposes "Invasion"

Robert E. Strahorn, president of the Oregon, California & Eastern, has filed with the Interstate Commerce Commission his contribution to the latest phase of the controversy over new railroad construction in Oregon, asking the commission to permit acquisition of control of the line by the Southern Pacific without awaiting the settlement of the differences regarding the construction plans, and also opposing the granting of trackage rights over the line to the Oregon Trunk. The Oregon Trunk applied to the commission for authority to build a line from Bend to Klamath Falls, Ore., but the commission told it to try to arrange for trackage rights over the Southern Pacific's Natron cut-off or over the O. C. & E., so that it need build only from Bend to Paumotu.

"Surely our pioneering efforts and large capital investment in opening up that country, with thus far inadequate returns and no evidence that they will ever justify division with another carrier, entitled us to your protective offices," said Mr. Strahorn. "I therefore beg to insist on not only repelling the idea of Oregon Trunk's destructive invasion of Oregon, California & Eastern territory but on still more strenuously opposing its use of the Oregon, California & Eastern and murderous division of our traffic from Klamath Falls north if the Oregon Trunk is given use of the Southern Pacific line into Klamath Falls."

Northwest Roads Denied Share in Prosperity

Railroads in the northwest did not receive their share of the 1926 prosperity enjoyed by the carriers generally, according to a statement made by Fred W. Sargent, president of the Chicago & North Western. "Results in the northwest with a return of 4.10 per cent compared with 5.74 per cent in the eastern district and 5.25 per cent for the United States as a whole, indicate that while the railroads in the northwest region have participated in the general prosperity the ratio of return in this region is still far below a fair return of 5.75 per cent.

"While the eastern district made 5.74 per cent and the southern district 5.76 per cent, the western district as a whole made 4.57 per cent and the northwest region 4.10 per cent. It is evident from this that the rate situation in the northwest is such as to limit the possibilities of the roads in a manner not experienced by the roads in the United States generally. Passenger traffic in the eastern district shows an increase of 0.6 per cent in volume and 0.8 per cent in revenues. In the northwestern region it declined 0.6 per cent in volume and 0.4 per cent in revenues. For the United States as a whole the decrease is 0.8 per cent in volume and 0.3 per cent in revenues. The

(Continued on page 264)

REVENUES AND EXPENSES OF RAILWAYS

MONTHS OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1926

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating income (or loss)	Net after rents	Net after taxes
		Freight	Passenger	Total	Way and structures	Maintenance of equipment	Traffic					
Alton, Canton & Youngstown.....	Nov. 171	\$271,338	\$334	\$271,672	\$25,779	\$29,126	\$9,891	66.5	\$19,150	\$188,136	\$38,286	\$22,798
Ann Arbor	Nov. 171	2,918,390	4,107	2,922,497	575,544	329,560	122,242	67.5	991,261	2,031,236	400,245	597,535
Ann Arbor	Nov. 293	4,622,749	25,502	4,648,251	86,865	98,550	131,572	72.8	1,829,168	4,819,083	104,613	66,241
Ann Arbor	Nov. 293	4,940,959	53,969,919	58,910,878	585,590	1,120,285	1,312,572	75.7	1,440,956	4,819,083	936,986	970,438
Archon, Topeka & Santa Fe.....	Nov. 9,320	15,399,815	2,896,821	18,296,636	2,077,673	3,169,790	404,031	57.1	365,473	11,331,837	6,831,219	6,880,823
Archon, Topeka & Santa Fe.....	Nov. 11 mos.	9,277	141,316,019	35,255,931	191,519,811	25,368,107	4,031,168	64.2	68,592,426	122,947,491	51,999,405	41,673,467
Gulf, Colorado & Santa Fe.....	Nov. 1,944	3,374,387	269,052	3,643,439	414,337	543,983	55,840	56.3	1,658,619	2,084,820	1,284,181	981,735
Gulf, Colorado & Santa Fe.....	Nov. 11 mos.	1,915	25,701,216	2,726,417	29,839,007	5,036,853	5,418,869	70.6	877,298	7,423,166	5,919,892	4,455,572
Panhandle & Santa Fe.....	Nov. 954	1,513,541	165,597	1,679,138	259,902	258,466	11,500	69.7	534,161	1,227,657	300,387	485,958
Panhandle & Santa Fe.....	Nov. 11 mos.	12,146,799	1,546,775	14,693,574	1,431,024	2,629,612	109,387	60.4	4,974,234	10,219,340	3,991,236	2,414,949
Atlanta & West Point.....	Nov. 91	155,335	64,806	220,141	28,947	51,339	12,098	70.0	52,811	177,330	27,713	57,782
Atlanta & West Point.....	Nov. 11 mos.	1,818,443	754,156	2,572,599	366,395	830,955	124,914	76.8	678,492	4,964,945	389,488	425,495
Western of Alabama.....	Nov. 133	179,175	61,969	241,144	33,643	52,735	12,762	72.2	12,540	194,776	61,135	77,772
Western of Alabama.....	Nov. 11 mos.	2,107,838	706,589	2,814,427	378,165	601,005	131,787	72.8	131,431	2,682,996	642,014	763,752
Atlanta, Birmingham & Atlantic.....	Nov. 639	376,174	37,057	413,231	112,987	83,302	28,696	92.8	33,364	379,867	19,613	10,854
Atlanta, Birmingham & Atlantic.....	Nov. 11 mos.	4,289,556	471,779	4,761,335	526,930	1,223,172	303,808	90.6	491,387	4,269,948	339,335	115,039
Atlantic Coast Line.....	Nov. 4,930	5,680,093	1,348,614	7,028,707	778,714	1,147,567	161,044	76.1	1,677,577	5,351,130	1,309,291	1,415,786
Atlantic Coast Line.....	Nov. 11 mos.	62,071,200	19,664,960	81,736,160	11,832,587	17,052,019	1,691,739	72.9	1,860,022	64,750,868	15,950,063	18,410,350
Charleston & Western Carolina.....	Nov. 342	259,738	19,051	278,789	37,681	47,819	7,040	73.6	6,572	212,217	49,530	17,578
Charleston & Western Carolina.....	Nov. 11 mos.	3,154,077	249,904	3,403,981	629,073	514,647	81,498	75.2	73,144	2,630,837	571,175	699,698
Baltimore & Ohio.....	Nov. 5,226	18,695,574	2,018,087	20,713,661	2,750,258	4,339,927	419,226	73.1	578,391	16,338,263	4,443,497	3,583,228
Baltimore & Ohio.....	Nov. 11 mos.	190,310,243	25,532,888	215,843,131	29,403,421	48,703,524	4,391,666	73.5	5,961,506	169,644,625	47,678,100	39,053,674
Baltimore & Ohio Chicago Term.....	Nov. 20	.....	.....	.....	20,400	380,372	21,611	78.1	137,916	2,745,778	1,249,707	1,140,946
Staten Island Rapid Transit.....	Nov. 23	122,837	112,351	235,188	33,341	18,540	2,478	66.3	15,522	176,455	22,491	45,911
Staten Island Rapid Transit.....	Nov. 11 mos.	1,196,773	1,345,520	2,542,293	310,553	310,553	23,252	75.1	735,316	1,806,977	188,048	159,222
Banger & Arcostook.....	Nov. 615	492,557	62,196	554,753	86,356	117,535	5,200	70.2	174,593	380,160	127,557	122,813
Banger & Arcostook.....	Nov. 11 mos.	5,361,480	678,230	6,039,710	1,064,772	1,269,665	56,403	68.8	248,902	4,346,475	1,764,561	1,624,443
Belt Ry. Co. of Chicago.....	Nov. 32	.....	.....	.....	674,400	52,208	3,308	64.9	237,009	188,598	181,181	182,402
Belt Ry. Co. of Chicago.....	Nov. 11 mos.	1,166,897	111,710	1,278,607	110,771	3,585,315	15,242	67.1	2,309,661	1,776,855	1,870,897	1,239,135
Bessemer & Lake Erie.....	Nov. 228	1,366,897	1,117,010	2,483,907	1,404,088	1,105,512	3,791,681	60.0	561,861	1,959,599	309,507	403,282
Bessemer & Lake Erie.....	Nov. 11 mos.	15,572,116	169,228	15,741,344	1,105,512	3,585,315	15,242	56.3	6,991,471	5,633,052	6,028,060	5,218,498
Bingham & Garfield.....	Nov. 33	46,009	.....	46,009	50,759	4,971	1,220	58.6	21,029	22,490	50,734	7,490
Bingham & Garfield.....	Nov. 11 mos.	490,722	60	490,782	518,847	98,853	16,233	72.7	141,577	349,205	231,916	160,093
Boston & Maine.....	Nov. 2,165	4,722,788	1,412,669	6,135,457	6,935,011	899,624	78,118	75.8	2,333,967	3,801,490	1,467,523	1,203,096
Boston & Maine.....	Nov. 11 mos.	47,693,767	18,391,596	66,085,363	10,100,834	13,841,936	822,442	75.9	18,103,394	47,982,069	12,240,461	11,258,115
Brooklyn Eastern Dist. Term.....	Nov. 9	133,090	.....	133,090	140,124	11,647	165	65.6	5,542	91,831	41,738	44,679
Brooklyn Eastern Dist. Term.....	Nov. 11 mos.	1,322,842	.....	1,322,842	1,400,998	93,397	4,262	59.3	570,816	454,830	494,315	472,651
Buffalo & Surquanna R. R. Corp.....	Nov. 253	128,256	2,320	130,576	24,992	48,591	2,293	93.5	8,325	122,251	34,667	10,167
Buffalo & Surquanna R. R. Corp.....	Nov. 11 mos.	1,065,251	28,416	1,093,667	302,502	441,286	20,762	107.9	91,179	1,211,156	4,692	99,370
Buffalo, Rochester & Pittsburgh.....	Nov. 601	1,441,481	92,183	1,533,664	234,283	485,314	26,688	85.4	42,655	1,136,299	259,175	319,930
Buffalo, Rochester & Pittsburgh.....	Nov. 11 mos.	15,058,217	1,131,706	16,190,923	2,090,597	4,696,254	312,208	80.6	5,837,574	13,353,349	3,035,027	2,263,082
Canadian Pacific Lines in Maine.....	Nov. 233	131,796	28,426	160,222	27,839	33,998	6,385	90.6	3,521	126,701	8,315	8,315
Canadian Pacific Lines in Maine.....	Nov. 11 mos.	1,684,867	329,438	2,014,305	480,498	468,278	60,314	94.4	127,357	1,886,948	148,234	161,134
Central of Georgia.....	Nov. 1,917	1,937,705	390,963	2,328,668	275,625	452,810	80,364	76.2	611,792	1,716,876	186,797	142,257
Central of Georgia.....	Nov. 11 mos.	21,292,292	5,457,019	26,749,311	2,938,693	5,038,693	847,664	72.2	1,486,001	23,263,310	1,067,598	542,101
Central of New Jersey.....	Nov. 690	3,877,504	677,412	4,554,916	4,396,758	4,396,758	44,258	82.8	843,288	3,711,628	3,347,913	2,681,769
Central of New Jersey.....	Nov. 11 mos.	42,839,504	8,754,086	51,593,590	5,178,522	12,605,011	496,122	73.0	14,921,523	36,672,067	9,135,315	8,089,293
Central Vermont.....	Nov. 433	641,038	91,649	732,687	804,254	113,453	18,087	71.2	231,881	500,806	186,797	142,257
Central Vermont.....	Nov. 11 mos.	6,257,030	1,246,892	7,503,922	1,246,892	1,246,892	18,087	82.2	1,486,001	6,017,921	1,067,598	542,101
Chesapeake & Ohio.....	Nov. 2,650	10,625,951	836,706	11,462,657	1,870,297	2,456,412	117,982	66.4	3,987,984	3,228,673	3,347,913	2,681,769
Chesapeake & Ohio.....	Nov. 11 mos.	108,688,204	8,259,893	116,948,097	17,832,763	28,290,412	1,301,478	68.4	38,658,667	31,506,521	33,705,571	27,957,566
Chicago & Alton.....	Nov. 1,055	1,952,464	520,623	2,473,087	365,707	548,015	59,110	73.4	729,310	1,743,777	459,440	447,455
Chicago & Alton.....	Nov. 11 mos.	20,225,034	5,987,558	26,212,592	3,918,764	6,743,059	777,115	77.6	6,430,165	22,312,299	3,364,320	4,150,540
Chicago & Eastern Illinois.....	Nov. 945	1,959,261	343,047	2,302,308	274,480	564,114	69,733	76.9	574,827	1,727,481	333,441	300,431
Chicago & Eastern Illinois.....	Nov. 11 mos.	19,531,530	4,278,270	23,809,800	2,811,532	6,654,286	874,522	80.2	5,101,167	18,708,633	2,327,434	1,772,411
Chicago & Illinois Midland.....	Nov. 133	168,742	10,389	179,131	188,029	12,806	4,301	77.6	42,069	137,062	34,393	47,674
Chicago & Illinois Midland.....	Nov. 11 mos.	1,163,185	65,791	1,228,976	1,283,854	2,739,914	389,068	79.3	264,112	1,014,864	402,792	454,617
Chicago & North Western.....	Nov. 8,460	9,105,132	2,026,982	11,132,114	2,258,906	2,739,914	199,656	84.8	1,902,853	9,229,261	1,662,551	1,400,669
Chicago & North Western.....	Nov. 11 mos.	8,458	102,688,881	24,162,018	142,561,068	21,101,093	2,238,701	77.0	32,743,507	24,108,433	22,022,252	19,754,607

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating income (or loss)	Net after rents	Net after taxes
		Freight	Passenger	Total	Way and structures	Equipment	Traffic					
Chicago, Burlington & Quincy.....	Nov. 11 mos.	9,404 \$11,574,642	\$1,851,609	\$14,709,659	\$2,650,559	\$2,494,791	\$249,060	\$4,825,877	71.7	\$4,155,677	\$3,180,900	\$2,832,603
Chicago, Burlington & Quincy.....	Nov. 11 mos.	9,404 111,584,106	22,285,379	148,162,593	21,470,218	27,794,858	2,830,363	49,476,297	71.6	42,015,619	31,095,635	28,076,667
Chicago, Great Western.....	Nov. 11 mos.	1,496 1,696,439	257,744	2,125,635	267,564	443,351	72,575	893,673	82.1	79,792	27,433	103,571
Chicago, Great Western.....	Nov. 11 mos.	1,496 18,517,381	3,070,010	23,342,206	3,264,068	4,620,046	847,240	8,974,066	79.1	4,882,650	3,772,651	2,296,529
Chicago, Indianapolis & Louisville.....	Nov. 11 mos.	647 1,182,058	214,045	1,550,201	154,366	333,246	37,787	568,352	73.7	407,690	325,515	228,718
Chicago, Indianapolis & Louisville.....	Nov. 11 mos.	647 12,934,324	2,467,174	17,045,220	1,653,924	3,898,086	404,779	6,018,479	71.6	4,836,798	3,772,865	2,752,571
Chicago, Milwaukee & St. Paul.....	Nov. 11 mos.	11,192 115,101,503	17,884,247	148,107,540	22,766,251	33,245,112	2,883,538	5,244,332	73.2	30,148,059	21,930,125	17,532,653
Chicago, Milwaukee & St. Paul.....	Nov. 11 mos.	11,192 1,188,106,607	17,884,247	148,107,540	22,766,251	33,245,112	2,883,538	5,244,332	73.2	30,148,059	21,930,125	17,532,653
Chicago River & Indiana.....	Nov. 19 mos.	604,301	41,280	76,878	769	228,787	60.0	241,585	185,008	311,399
Chicago River & Indiana.....	Nov. 19 mos.	6,366,095	41,280	76,878	769	228,787	60.0	241,585	185,008	311,399
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
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Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
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Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
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Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498
Chicago, Rock Island & Pacific.....	Nov. 7 mos.	8,580,179	1,799,275	11,292,000	1,350,971	2,332,029	204,588	4,036,795	64.7	2,276,825	1,753,044	3,015,498

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road	Average mileage operated during period.	Operating revenues			Maintenance of way and structures			Operating expenses			Operating ratio.	Net from railway operation.	Operating income (or loss).	Net after rents.	Net after 1925.	
		Freight.	Passenger.	Total.	Way and structures.	Equip-ment.	Traffic.	Trans-portion.	General.	Total.						
Evansville, Indiana's & Terre Haute. Nov.	146	\$255,918	\$4,600	\$260,518	\$32,165	\$31,138	\$1,959	\$75,570	\$5,342	\$146,214	54.6	\$121,652	\$108,091	\$73,759	\$35,249	
11 mos.	146	2,494,562	57,336	2,551,898	331,255	343,410	21,919	711,115	70,744	1,584,039	65.2	829,020	733,722	337,159	346,596	
Florida East Coast. Nov.	849	1,373,747	525,400	2,128,554	431,346	298,179	39,392	632,947	63,999	1,516,299	71.2	612,225	472,482	354,025	276,576	
11 mos.	849	15,704,508	8,163,514	26,922,539	4,365,593	3,932,318	356,573	9,824,270	644,828	18,356,738	68.9	8,365,801	6,873,169	4,741,533	4,990,527	
Fort Smith & Western. Nov.	249	173,364	13,556	195,039	34,580	33,692	5,942	54,525	8,336	136,532	70.0	58,507	52,994	39,626	64,434	
11 mos.	249	1,370,391	153,979	1,611,634	317,985	305,747	61,857	532,771	83,656	1,299,012	86.6	311,602	281,554	96,814	277,646	
Galveston Wharf. Nov.	13	.....	.....	256,414	49,692	4,051	1,217	57,824	5,412	114,164	52.3	122,250	97,610	96,985	22,905
11 mos.	13	.....	.....	1,796,688	476,887	52,721	15,016	415,582	36,617	1,138,666	63.4	636,022	432,938	341,847	166,633
Georgia R. R. Nov.	328	383,500	71,976	457,534	49,278	89,477	22,348	205,731	22,580	388,755	79.7	98,779	85,854	95,573	75,173	
11 mos.	328	4,379,725	914,529	5,649,574	622,335	1,067,480	247,820	2,250,710	241,005	4,470,272	79.1	1,170,120	1,044,978	1,036,318	914,011	
Georgia & Florida. Nov.	408	116,195	18,967	147,848	25,058	19,759	9,086	55,037	8,303	117,474	79.4	30,374	27,163	33,038	45,163	
11 mos.	408	1,481,844	238,284	1,825,570	263,662	213,424	95,795	663,279	90,731	1,329,533	72.8	496,217	418,782	218,653	238,022	
Grand Trunk Western. Nov.	347	1,446,703	175,424	1,722,615	141,057	375,406	36,870	566,822	66,682	1,196,887	69.5	528,758	424,618	249,626	170,100	
11 mos.	347	16,987,210	2,088,000	19,105,140	2,435,502	4,160,848	418,531	6,312,061	650,417	13,892,699	72.7	5,210,441	4,304,217	2,799,731	1,701,100	
Atlantic & St. Lawrence. Nov.	166	14,000,489	358,783	2,368,111	432,536	374,779	61,491	1,155,699	92,293	2,332,564	102.9	-5,620	-15,584	-63,030	-61,184	
11 mos.	166	1,800,489	358,783	2,368,111	432,536	374,779	61,491	1,155,699	92,293	2,332,564	90.8	234,847	87,856	-560,815	-861,806	
Chic. Det. & Canada Gr. Tr. Jan. Nov.	59	194,432	1,075	249,451	39,074	15,608	4,200	101,787	4,060	164,646	66.0	84,805	57,847	20,978	94,117	
11 mos.	59	2,939,598	27,756	3,482,013	427,459	453,609	43,600	1,104,341	45,230	1,816,353	50.2	1,665,660	1,485,249	1,074,061	976,548	
Det., Grand Haven & Milwaukee. Nov.	189	708,144	24,766	791,395	57,231	53,001	11,762	104,974	16,235	399,309	50.5	392,095	374,068	278,858	125,279	
11 mos.	189	6,526,917	373,641	7,513,167	676,098	608,424	130,390	2,857,295	173,473	4,441,045	59.1	3,072,122	2,963,412	1,793,733	1,044,439	
Great Northern. Nov.	2,166	10,324,226	1,017,436	12,218,696	994,977	1,416,743	222,391	3,513,778	215,626	6,432,617	52.6	5,786,079	4,912,291	4,673,515	4,102,893	
11 mos.	2,166	89,293,238	11,796,235	109,272,866	13,463,061	16,511,863	2,401,476	34,229,366	2,403,762	69,373,362	63.7	39,635,504	30,725,078	29,561,712	26,078,012	
Green Bay & Western. Nov.	234	138,971	5,158	153,286	29,575	22,803	4,327	52,311	2,766	111,979	73.0	41,307	34,307	33,665	32,985	
11 mos.	234	1,379,076	70,878	1,515,624	284,926	266,259	51,416	526,303	32,046	1,160,780	76.5	334,844	250,703	238,482	236,800	
Gulf & Ship Island. Nov.	307	274,372	36,222	339,881	160,779	59,838	5,245	126,211	505,683	44,997	216,212	71.0	405,344	399,530	375,638	452,162
11 mos.	307	2,942,173	489,790	3,708,490	1,886,394	726,500	56,651	1,416,383	77,830	3,600,615	106.1	-20,734	-45,152	-57,384	-25,375	
Gulf, Mobile & Northern. Nov.	611	493,056	26,888	543,990	81,011	88,425	27,030	155,836	21,741	4,196,355	119.2	487,965	768,081	-951,668	384,479	
11 mos.	519	5,292,891	338,327	5,873,995	934,496	897,041	279,556	1,615,848	251,977	3,982,769	67.86	1,891,236	1,392,600	1,303,156	1,298,193	
Hocking Valley. Nov.	348	1,491,240	63,887	1,712,146	225,121	424,292	16,121	505,683	44,997	216,212	71.0	405,344	399,530	375,638	452,162	
11 mos.	348	15,724,744	712,337	18,218,073	2,207,935	4,603,963	168,220	5,279,636	453,705	12,502,644	69.4	5,555,675	4,328,599	4,050,494	3,249,372	
Illinois Central. Nov.	4,872	10,724,033	1,878,347	13,725,507	1,905,891	3,083,553	257,822	4,270,242	332,122	10,507,644	76.6	3,217,673	2,360,310	2,381,618	2,589,376	
11 mos.	4,874	112,371,418	21,995,663	145,338,466	20,837,472	33,392,443	2,731,162	50,173,879	3,667,867	111,438,612	76.7	33,899,854	21,206,870	21,154,255	22,837,478	
Yazoo & Mississippi Valley. Nov.	1,210	2,371,815	345,652	2,888,165	538,006	446,606	50,679	931,082	75,177	2,947,138	70.9	841,027	594,952	540,146	429,450	
11 mos.	1,210	20,471,947	3,384,908	25,745,067	4,737,303	4,537,791	465,389	8,963,685	736,861	19,455,045	70.9	6,119,022	4,170,527	3,426,447	429,450	
Illinois Central System. Nov.	6,584	13,171,628	2,220,198	16,615,670	2,435,989	3,621,709	308,553	5,732,431	400,259	12,586,055	75.2	4,029,615	2,798,598	2,814,555	3,097,616	
11 mos.	6,585	135,531,592	26,107,125	173,992,017	26,185,240	38,641,739	3,316,062	60,361,043	4,629,827	133,781,798	76.9	40,210,219	28,131,038	27,275,915	28,452,936	
Kansas City, Mexico & Orient. Nov.	272	252,108	6,993	268,556	42,263	28,613	8,309	30,666	164,456	273,707	101.9	-5,151	-9,539	6,690	2,085	
11 mos.	272	2,955,208	83,875	3,039,083	646,611	532,929	76,911	706,876	236,525	2,192,701	102.4	-11,242	-109,594	52,240	2,486	
Kans. City, Mex. & Orient of Tex. Nov.	465	500,550	19,359	520,909	86,614	114,656	8,597	158,896	34,656	402,846	75.6	130,117	122,387	64,827	8,261	
11 mos.	465	3,515,012	193,642	3,842,146	1,021,378	872,324	87,140	1,139,666	107,716	3,162,505	82.3	679,641	600,095	129,958	271,848	
Kansas City Southern. Nov.	784	1,222,520	107,809	1,497,153	200,236	272,734	48,870	493,498	76,636	1,091,413	72.9	405,740	323,914	286,953	336,777	
11 mos.	784	14,363,173	1,355,555	17,432,647	2,016,791	2,983,358	555,016	5,460,062	862,866	11,856,720	68.0	5,575,927	4,418,178	3,909,131	3,427,748	
Texasiana & Ft. Smith. Nov.	81	223,223	10,246	253,257	31,481	28,591	4,594	47,689	10,449	148,210	58.3	105,047	88,216	61,065	57,122	
11 mos.	81	2,419,182	120,516	2,742,537	259,040	262,996	67,823	760,159	114,817	1,478,750	53.9	1,263,787	1,076,512	734,811	702,327	
Kansas, Oklahoma & Gulf. Nov.	318	227,498	4,569	237,895	104,679	21,973	8,926	69,691	6,817	211,689	89.0	26,200	16,617	1,343	42,576	
11 mos.	315	2,226,099	57,968	2,343,997	871,455	551,713	104,898	773,542	155,598	2,457,304	104.8	-113,307	-243,771	-420,717	-14,340	
Lake Superior & Ishpeming. Nov.	160	137,366	3,426	159,581	29,073	28,013	459	47,689	39,893	139,893	88.9	49,688	33,452	35,473	66,381	
11 mos.	160	2,047,794	35,701	2,379,846	423,846	267,428	6,448	579,606	94,548	1,331,634	56.0	1,048,206	795,948	772,243	677,054	
Lake Terminal. Nov.	13	.....	.....	95,766	13,126	19,432	.....	55,337	2,111	90,008	94.0	5,760	-3,006	-13,346	-20,674
11 mos.	13	.....	.....	1,089,289	148,696	198,434	.....	603,672	19,845	970,637	80.1	118,652	48,935	15,403	23,959
Lehigh & Hudson River. Nov.	96	321,840	1,620	358,029	55,408	45,754	2,005	115,874	9,223	228,229	63.7	129,600	110,180	77,974	37,120	
11 mos.	96	2,967,497	23,431	3,102,653	365,393	415,257	20,883	1,231,777	194,577	2,059,846	64.3	1,142,697	933,407	671,182	396,311	
Lehigh & New England. Nov.	217	500,939	1,226	512,283	55,029	95,581	6,208	154,899	35,466	327,124	63.9	185,159	156,092	162,878	4,549	
11 mos.	210	5,292,601	14,167	5,342,466	539,900	1,060,879	88,410	1,565,698	158,446	3,778,404	64.4	1,566,052	1,352,052	1,613,671	1,331,573	
Lehigh Valley. Nov.	1,363	6,126,509	777,377	6,767,156	792,829	1,494,332	148,860	2,699,934	140,340	5,285,357	75.2	18,278,847	14,085,368	12,869,750	374,120	
11 mos.	1,363	61,260,503	7,373,086	68,633,589	8,533,782	15,662,532	1,436,881	28,091,490	1,530,512	55,430,139	75.2	18,278,847	14,311,542	13,023,150	11,912,792	
Louisiana & Arkansas. Nov.	302	314,739	16,207	330,957	50,270	55,168	10,986	98,998	11,675	235,932	69.6	103,125	64,436	49,219	51,318	
11 mos.	302	3,624,185	201,697	3,925,972	570,597	627,566	126,252	1,104,990	128,140	2,592,305	65.4	1,359,935	978,425	794,277	762,313	
Louisiana Ry. & Nav. Co. Nov.	337	316,806	16,764	332,159	4,742	52,197	11,972	147,823	10,189	252,935	83.6	57,644	53,355	44,450	51,450	
11 mos.	337	3,105,934	204,565	3,497,114	657,573	528,777	128,263	1,485,989	112,060	2,869,250	82.0	627,864	383,659	-14,972	15,229	

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating (income or loss)	Net after rents, 1925.
		Freight	Passenger	Total (inc. misc.)	Way and structures	Maintenance of equipment	Traffic				
Louisiana Ry. & Nav. Co. of Tex., Nov. 11 mos.	206	\$102,744	\$5,211	\$107,955	\$11,264	\$11,264	\$3,221	85.7	\$16,066	\$11,598	\$11,712
Louisiana Ry. & Nav. Co. of Tex., Nov. 11 mos.	206	\$102,744	\$5,211	\$107,955	\$11,264	\$11,264	\$3,221	85.7	\$16,066	\$11,598	\$11,712
Louisville & Nashville, Nov. 11 mos.	503	\$917,822	\$1,610,508	\$2,528,330	\$2,855,572	\$2,855,572	\$2,686,112	78.6	\$2,566,902	\$1,905,783	\$2,092,570
Louisville & Nashville, Nov. 11 mos.	503	\$917,822	\$1,610,508	\$2,528,330	\$2,855,572	\$2,855,572	\$2,686,112	78.6	\$2,566,902	\$1,905,783	\$2,092,570
Louisville, Henderson & St. Louis, Nov. 11 mos.	199	\$237,848	\$4,280	\$242,128	\$38,961	\$38,961	\$7,356	73.1	\$80,336	\$59,935	\$57,089
Louisville, Henderson & St. Louis, Nov. 11 mos.	199	\$237,848	\$4,280	\$242,128	\$38,961	\$38,961	\$7,356	73.1	\$80,336	\$59,935	\$57,089
Maine Central, Nov. 11 mos.	1,121	\$1,267,080	\$248,109	\$1,515,189	\$1,515,189	\$1,515,189	\$1,515,189	75.8	\$404,547	\$300,464	\$283,434
Maine Central, Nov. 11 mos.	1,121	\$1,267,080	\$248,109	\$1,515,189	\$1,515,189	\$1,515,189	\$1,515,189	75.8	\$404,547	\$300,464	\$283,434
Midland Valley, Nov. 11 mos.	364	\$344,756	\$28,521	\$373,277	\$33,554	\$33,554	\$6,614	55.3	\$168,995	\$146,312	\$127,081
Midland Valley, Nov. 11 mos.	364	\$344,756	\$28,521	\$373,277	\$33,554	\$33,554	\$6,614	55.3	\$168,995	\$146,312	\$127,081
Minneapolis & St. Louis, Nov. 11 mos.	1,627	\$1,124,485	\$84,509	\$1,209,000	\$1,209,000	\$1,209,000	\$1,209,000	84.1	\$203,442	\$136,884	\$127,786
Minneapolis & St. Louis, Nov. 11 mos.	1,627	\$1,124,485	\$84,509	\$1,209,000	\$1,209,000	\$1,209,000	\$1,209,000	84.1	\$203,442	\$136,884	\$127,786
Minneapolis, St. Paul & S. S. Marie, Nov. 11 mos.	4,400	\$3,481,067	\$415,789	\$3,896,856	\$3,896,856	\$3,896,856	\$3,896,856	68.8	\$1,317,955	\$1,089,651	\$942,032
Minneapolis, St. Paul & S. S. Marie, Nov. 11 mos.	4,400	\$3,481,067	\$415,789	\$3,896,856	\$3,896,856	\$3,896,856	\$3,896,856	68.8	\$1,317,955	\$1,089,651	\$942,032
Duluth, South Shore & Atlantic, Nov. 11 mos.	580	\$282,690	\$72,835	\$355,525	\$355,525	\$355,525	\$355,525	84.3	\$63,104	\$34,103	\$27,011
Duluth, South Shore & Atlantic, Nov. 11 mos.	580	\$282,690	\$72,835	\$355,525	\$355,525	\$355,525	\$355,525	84.3	\$63,104	\$34,103	\$27,011
Spokane International, Nov. 11 mos.	165	\$237,848	\$4,280	\$242,128	\$38,961	\$38,961	\$7,356	65.1	\$36,019	\$29,812	\$20,704
Spokane International, Nov. 11 mos.	165	\$237,848	\$4,280	\$242,128	\$38,961	\$38,961	\$7,356	65.1	\$36,019	\$29,812	\$20,704
Mississippi Central, Nov. 11 mos.	161	\$134,192	\$9,774	\$143,966	\$143,966	\$143,966	\$143,966	68.5	\$47,319	\$35,000	\$28,138
Mississippi Central, Nov. 11 mos.	161	\$134,192	\$9,774	\$143,966	\$143,966	\$143,966	\$143,966	68.5	\$47,319	\$35,000	\$28,138
Missouri & North Arkansas, Nov. 11 mos.	364	\$130,055	\$14,937	\$144,992	\$40,386	\$40,386	\$9,948	81.7	\$23,556	\$21,378	\$17,833
Missouri & North Arkansas, Nov. 11 mos.	364	\$130,055	\$14,937	\$144,992	\$40,386	\$40,386	\$9,948	81.7	\$23,556	\$21,378	\$17,833
Missouri-Kansas-Texas, Nov. 11 mos.	1,799	\$2,692,698	\$324,560	\$3,017,258	\$3,017,258	\$3,017,258	\$3,017,258	60.7	\$1,288,034	\$1,044,637	\$762,322
Missouri-Kansas-Texas, Nov. 11 mos.	1,799	\$2,692,698	\$324,560	\$3,017,258	\$3,017,258	\$3,017,258	\$3,017,258	60.7	\$1,288,034	\$1,044,637	\$762,322
Missouri-Kansas-Texas of Texas, Nov. 11 mos.	1,389	\$1,750,127	\$334,888	\$2,085,015	\$2,085,015	\$2,085,015	\$2,085,015	70.2	\$672,315	\$619,076	\$431,082
Missouri-Kansas-Texas of Texas, Nov. 11 mos.	1,389	\$1,750,127	\$334,888	\$2,085,015	\$2,085,015	\$2,085,015	\$2,085,015	70.2	\$672,315	\$619,076	\$431,082
Missouri Pacific, Nov. 11 mos.	7,347	\$9,645,962	\$1,276,848	\$10,922,810	\$10,922,810	\$10,922,810	\$10,922,810	76.0	\$2,812,505	\$2,282,940	\$1,905,822
Missouri Pacific, Nov. 11 mos.	7,347	\$9,645,962	\$1,276,848	\$10,922,810	\$10,922,810	\$10,922,810	\$10,922,810	76.0	\$2,812,505	\$2,282,940	\$1,905,822
Gulf Coast Lines, Nov. 11 mos.	922	\$1,040,825	\$170,302	\$1,211,127	\$1,211,127	\$1,211,127	\$1,211,127	81.0	\$467,036	\$182,037	\$139,169
Gulf Coast Lines, Nov. 11 mos.	922	\$1,040,825	\$170,302	\$1,211,127	\$1,211,127	\$1,211,127	\$1,211,127	81.0	\$467,036	\$182,037	\$139,169
International-Great Northern, Nov. 11 mos.	1,159	\$1,449,917	\$212,760	\$1,662,677	\$1,662,677	\$1,662,677	\$1,662,677	77.9	\$399,496	\$343,501	\$222,449
International-Great Northern, Nov. 11 mos.	1,159	\$1,449,917	\$212,760	\$1,662,677	\$1,662,677	\$1,662,677	\$1,662,677	77.9	\$399,496	\$343,501	\$222,449
San Antonio, Uvalde & Gulf, Nov. 11 mos.	318	\$9,456	\$20,717	\$30,173	\$30,173	\$30,173	\$30,173	93.0	\$5,880	\$4,504	\$2,039
San Antonio, Uvalde & Gulf, Nov. 11 mos.	318	\$9,456	\$20,717	\$30,173	\$30,173	\$30,173	\$30,173	93.0	\$5,880	\$4,504	\$2,039
Texas & Pacific, Nov. 11 mos.	1,934	\$2,590,909	\$479,591	\$3,070,500	\$3,070,500	\$3,070,500	\$3,070,500	69.2	\$1,013,540	\$850,593	\$748,392
Texas & Pacific, Nov. 11 mos.	1,934	\$2,590,909	\$479,591	\$3,070,500	\$3,070,500	\$3,070,500	\$3,070,500	69.2	\$1,013,540	\$850,593	\$748,392
Mobile & Ohio, Nov. 11 mos.	1,161	\$1,435,453	\$107,542	\$1,542,995	\$1,542,995	\$1,542,995	\$1,542,995	74.9	\$808,535	\$631,209	\$525,973
Mobile & Ohio, Nov. 11 mos.	1,161	\$1,435,453	\$107,542	\$1,542,995	\$1,542,995	\$1,542,995	\$1,542,995	74.9	\$808,535	\$631,209	\$525,973
Monongahela, Nov. 11 mos.	1,161	\$1,435,453	\$107,542	\$1,542,995	\$1,542,995	\$1,542,995	\$1,542,995	74.9	\$808,535	\$631,209	\$525,973
Monongahela, Nov. 11 mos.	1,161	\$1,435,453	\$107,542	\$1,542,995	\$1,542,995	\$1,542,995	\$1,542,995	74.9	\$808,535	\$631,209	\$525,973
Monongahela Connecting, Nov. 11 mos.	7	\$123,344	\$2,904	\$126,248	\$126,248	\$126,248	\$126,248	96.2	\$4,752	\$4,752	\$29,919
Monongahela Connecting, Nov. 11 mos.	7	\$123,344	\$2,904	\$126,248	\$126,248	\$126,248	\$126,248	96.2	\$4,752	\$4,752	\$29,919
Montaur, Nov. 11 mos.	57	\$1,006,637	\$2,904	\$1,009,541	\$1,009,541	\$1,009,541	\$1,009,541	103.6	\$36,801	\$36,801	\$270,717
Montaur, Nov. 11 mos.	57	\$1,006,637	\$2,904	\$1,009,541	\$1,009,541	\$1,009,541	\$1,009,541	103.6	\$36,801	\$36,801	\$270,717
Nashville, Chattanooga & St. Louis, Nov. 11 mos.	1,259	\$1,546,801	\$326,601	\$1,873,402	\$1,873,402	\$1,873,402	\$1,873,402	75.6	\$493,907	\$383,844	\$414,941
Nashville, Chattanooga & St. Louis, Nov. 11 mos.	1,259	\$1,546,801	\$326,601	\$1,873,402	\$1,873,402	\$1,873,402	\$1,873,402	75.6	\$493,907	\$383,844	\$414,941
Nevada Northern, Nov. 11 mos.	165	\$74,634	\$6,516	\$81,150	\$81,150	\$81,150	\$81,150	49.2	\$44,806	\$32,248	\$18,487
Nevada Northern, Nov. 11 mos.	165	\$74,634	\$6,516	\$81,150	\$81,150	\$81,150	\$81,150	49.2	\$44,806	\$32,248	\$18,487
Newburgh & South Shore, Nov. 11 mos.	7	\$123,344	\$2,904	\$126,248	\$126,248	\$126,248	\$126,248	96.2	\$4,752	\$4,752	\$29,919
Newburgh & South Shore, Nov. 11 mos.	7	\$123,344	\$2,904	\$126,248	\$126,248	\$126,248	\$126,248	96.2	\$4,752	\$4,752	\$29,919
New Orleans Great Northern, Nov. 11 mos.	274	\$2,502,722	\$306,372	\$2,809,094	\$2,809,094	\$2,809,094	\$2,809,094	69.4	\$88,042	\$68,503	\$51,128
New Orleans Great Northern, Nov. 11 mos.	274	\$2,502,722	\$306,372	\$2,809,094	\$2,809,094	\$2,809,094	\$2,809,094	69.4	\$88,042	\$68,503	\$51,128
New York Central, Nov. 11 mos.	6,930	\$21,978,308	\$7,475,550	\$29,453,858	\$29,453,858	\$29,453,858	\$29,453,858	77.3	\$7,675,341	\$5,621,917	\$5,621,917
New York Central, Nov. 11 mos.	6,930	\$21,978,308	\$7,475,550	\$29,453,858	\$29,453,858	\$29,453,858	\$29,453,858	77.3	\$7,675,341	\$5,621,917	\$5,621,917
Cincinnati Northern, Nov. 11 mos.	244	\$424,916	\$5,821	\$430,737	\$430,737	\$430,737	\$430,737	60.9	\$172,509	\$124,278	\$124,278
Cincinnati Northern, Nov. 11 mos.	244	\$424,916	\$5,821	\$430,737	\$430,737	\$430,737	\$430,737	60.9	\$172,509	\$124,278	\$124,278
Cleve., Cin., Chicago & St. Louis, Nov. 11 mos.	2,386	\$6,147,326	\$1,224,552	\$7,371,878	\$7,371,878	\$7,371,878	\$7,371,878	74.2	\$2,074,364	\$1,594,280	\$1,638,076
Cleve., Cin., Chicago & St. Louis, Nov. 11 mos.	2,386	\$6,147,326	\$1,224,552	\$7,371,878	\$7,371,878	\$7,371,878	\$7,371,878	74.2	\$2,074,364	\$1,594,280	\$1,638,076
Indiana Harbor Belt, Nov. 11 mos.	116	\$1,411,267	\$1,411,267	\$2,822,534	\$2,822,534	\$2,822,534	\$2,822,534	71.6	\$2,962,085	\$2,442,805	\$1,764,543
Indiana Harbor Belt, Nov. 11 mos.	116	\$1,411,267	\$1,411,267	\$2,822,534	\$2,822,534	\$2,822,534	\$2,822,534	71.6	\$2,962,085	\$2,442,805	\$1,764,543

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road	Average mileage operated during period	Operating revenues				Operating expenses				Operating ratio	Net from railway operation	Net after rents, 1925.
		Freight	Passenger	Total	(Inc. misc.)	Way and structures	Maintenance of equipment	Traffic	Transportation			
Michigan Central	1,871	\$5,071,914	\$1,562,931	\$7,466,200	172,538,114	\$785,612	\$1,330,349	\$120,049	\$2,567,277	\$2,566,859	\$4,943,479	\$2,602,339
Nov.	1,871	601,021,200	19,728,008	88,532,410	10,670,577	1,244,273	10,670,577	2,483,662	2,483,662	2,483,662	21,943,860	21,943,860
11 mos.	1,871	6,010,212	1,972,801	88,532,410	10,670,577	1,244,273	10,670,577	2,483,662	2,483,662	2,483,662	21,943,860	21,943,860
Pittsburgh & Lake Erie	2,231	2,803,773	237,435	3,136,843	482,885	863,759	23,359	1,010,362	86,350	2,469,490	657,353	890,791
Nov.	2,231	2,803,773	237,435	3,136,843	482,885	863,759	23,359	1,010,362	86,350	2,469,490	657,353	890,791
11 mos.	2,231	27,464,477	2,685,269	31,206,466	4,303,380	9,730,558	260,625	9,763,538	932,595	23,012,692	8,533,023	7,845,198
New York, Chicago & St. Louis	1,691	4,180,464	132,383	4,476,650	575,394	997,406	122,256	1,651,406	151,646	3,330,263	1,140,387	758,917
Nov.	1,691	4,180,464	132,383	4,476,650	575,394	997,406	122,256	1,651,406	151,646	3,330,263	1,140,387	758,917
11 mos.	1,691	47,006,861	1,771,840	50,477,800	6,540,929	10,670,577	1,651,406	17,229,460	1,866,402	36,228,460	13,749,340	9,813,826
N. Y., New Haven & Hartford	1,912	6,266,314	1,143,616	7,409,930	1,462,418	2,402,615	88,849	2,491,467	3,096,363	9,621,823	3,119,615	2,666,929
Nov.	1,912	6,266,314	1,143,616	7,409,930	1,462,418	2,402,615	88,849	2,491,467	3,096,363	9,621,823	3,119,615	2,666,929
11 mos.	1,912	63,801,979	45,854,517	123,656,496	16,385,238	26,069,005	880,849	42,106,449	3,270,885	90,734,959	32,933,562	27,953,978
Central New England	271	733,350	1,968	752,852	1,045,441	131,490	6,981	224,864	15,111	505,412	247,440	190,601
Nov.	271	733,350	1,968	752,852	1,045,441	131,490	6,981	224,864	15,111	505,412	247,440	190,601
11 mos.	271	6,970,206	39,556	7,009,762	312,934	13,720	.....	56,115	1,419	1,048,832	2,200,776	1,496,309
New York Connecting	20	276,531	.....	276,531	.....	146,923	.....	.....	588,572	16,377	1,653,011	1,152,434
Nov.	20	276,531	.....	276,531	.....	146,923	.....	.....	588,572	16,377	1,653,011	1,152,434
11 mos.	20	2,440,760	.....	2,440,760	.....	388,726	.....	.....	.....	.....	1,231,011	1,139,810
New York, Ontario & Western	569	757,758	64,674	987,808	165,946	233,092	15,745	457,915	34,210	909,325	78,493	40,903
Nov.	569	757,758	64,674	987,808	165,946	233,092	15,745	457,915	34,210	909,325	78,493	40,903
11 mos.	569	8,457,637	2,572,987	11,030,624	2,527,673	3,130,159	180,584	5,202,314	732,957	10,667,505	2,944,961	2,389,901
Norfolk & Western	2,241	10,520,258	556,091	11,076,349	1,484,394	1,740,077	1,184,872	2,815,289	189,690	6,310,655	5,134,292	4,033,653
Nov.	2,241	10,520,258	556,091	11,076,349	1,484,394	1,740,077	1,184,872	2,815,289	189,690	6,310,655	5,134,292	4,033,653
11 mos.	2,241	99,113,641	6,968,679	106,082,320	15,105,901	19,270,536	1,194,247	27,487,887	2,073,389	64,574,342	44,873,688	34,986,832
Norfolk Southern	931	780,637	54,201	834,838	127,135	190,811	23,363	296,572	23,491	656,153	222,861	156,782
Nov.	931	780,637	54,201	834,838	127,135	190,811	23,363	296,572	23,491	656,153	222,861	156,782
11 mos.	931	7,977,391	786,669	8,764,060	1,308,318	1,533,645	261,473	3,346,069	313,109	6,349,252	2,717,907	2,106,675
Norfolk Pacific	6,682	7,193,080	905,997	8,099,077	7,117,173	1,447,552	170,999	2,766,485	2,640,282	5,421,283	3,384,764	2,544,183
Nov.	6,682	7,193,080	905,997	8,099,077	7,117,173	1,447,552	170,999	2,766,485	2,640,282	5,421,283	3,384,764	2,544,183
11 mos.	6,682	70,915,066	11,517,500	82,432,566	11,685,850	16,019,074	2,236,449	29,643,301	2,640,242	63,141,380	27,019,573	18,370,626
Northwestern Pacific	477	306,816	130,719	437,535	102,629	81,107	6,772	207,667	19,138	416,873	65,200	24,309
Nov.	477	306,816	130,719	437,535	102,629	81,107	6,772	207,667	19,138	416,873	65,200	24,309
11 mos.	477	4,123,153	1,862,030	5,985,183	1,089,814	902,961	72,468	2,444,158	199,898	4,706,890	1,837,293	1,406,636
Pennsylvania R. R.	10,517	45,689,596	11,536,640	57,226,236	7,557,872	13,652,260	806,257	23,371,833	1,544,271	47,662,224	15,005,188	11,936,512
Nov.	10,517	45,689,596	11,536,640	57,226,236	7,557,872	13,652,260	806,257	23,371,833	1,544,271	47,662,224	15,005,188	11,936,512
11 mos.	10,517	456,897,500	135,472,797	592,370,297	83,286,304	148,109,956	8,090,580	254,562,213	17,052,296	500,136,140	150,974,051	115,493,806
Baltimore, Chesapeake & Atlantic	130	75,496	26,372	101,868	11,470	16,562	1,477	77,044	3,030	109,592	—1,552	—2,878
Nov.	130	75,496	26,372	101,868	11,470	16,562	1,477	77,044	3,030	109,592	—1,552	—2,878
11 mos.	130	866,954	378,043	1,244,997	145,453	239,344	22,027	862,443	36,433	1,397,452	—70,035	—120,273
Long Island	397	1,283,523	1,845,796	3,129,319	463,230	581,901	28,666	1,453,583	77,512	2,692,520	521,710	410,710
Nov.	397	1,283,523	1,845,796	3,129,319	463,230	581,901	28,666	1,453,583	77,512	2,692,520	521,710	410,710
11 mos.	397	10,820,055	23,328,036	34,148,091	4,645,867	5,815,901	349,127	14,755,125	875,124	26,526,278	10,076,874	8,299,076
West Jersey & Seashore	378	475,712	356,654	832,366	167,313	168,697	17,016	463,157	312,108	841,413	30,164	30,164
Nov.	378	475,712	356,654	832,366	167,313	168,697	17,016	463,157	312,108	841,413	30,164	30,164
11 mos.	378	4,817,398	3,780,936	8,598,334	1,833,120	2,098,876	223,712	5,347,033	72,446	9,823,981	2,306,390	1,878,111
Peoria & Pekin Union	19	27,034	3,211	30,245	15,810	27,759	10,047	66,935	87,467	118,933	—7,215	—7,215
Nov.	19	27,034	3,211	30,245	15,810	27,759	10,047	66,935	87,467	118,933	—7,215	—7,215
11 mos.	19	273,197	27,570	300,767	212,876	1,201,765	10,047	66,935	87,467	118,933	418,403	499,124
Pere Marquette	2,243	3,541,356	230,150	3,771,506	400,284	923,672	56,197	1,383,748	103,949	2,871,332	1,162,630	943,387
Nov.	2,243	3,541,356	230,150	3,771,506	400,284	923,672	56,197	1,383,748	103,949	2,871,332	1,162,630	943,387
11 mos.	2,243	36,217,595	3,544,111	39,761,706	4,582,415	8,658,541	608,164	14,160,887	1,426,872	29,309,669	13,194,098	10,928,309
Pittsburgh & Shawmut	102	134,316	3,578	137,894	18,161	18,161	1,468	14,683	7,162	19,791	38,001	37,644
Nov.	102	134,316	3,578	137,894	18,161	18,161	1,468	14,683	7,162	19,791	38,001	37,644
11 mos.	102	1,459,767	37,785	1,497,552	206,187	455,217	15,495	418,924	76,359	1,172,184	351,336	348,812
Pittsburgh & West Virginia	92	391,766	5,970	397,736	20,717	71,218	8,382	85,068	24,154	220,157	212,447	143,518
Nov.	92	391,766	5,970	397,736	20,717	71,218	8,382	85,068	24,154	220,157	212,447	143,518
11 mos.	92	4,248,627	63,180	4,311,807	394,012	914,248	89,005	62,628	225,094	2,659,544	2,062,095	1,412,829
Pittsburgh, Shawmut & Northern	198	143,342	3,245	150,778	32,950	33,530	1,563	61,848	5,895	135,786	14,992	11,994
Nov.	198	143,342	3,245	150,778	32,950	33,530	1,563	61,848	5,895	135,786	14,992	11,994
11 mos.	198	1,707,135	31,530	1,738,665	343,559	366,834	18,378	651,607	62,106	1,442,474	335,155	302,007
Quincy, Omaha & Kansas City	250	611,375	164,824	776,199	14,824	10,411	690	36,603	2,769	72,178	13,740	8,990
Nov.	250	611,375	164,824	776,199	14,824	10,411	690	36,603	2,769	72,178	13,740	8,990
11 mos.	250	6,113,750	1,648,240	7,761,990	328,261	143,751	8,941	370,043	28,520	877,904	—12,188	—64,711
Reading Company	1,138	8,033,481	842,717	9,051,198	965,554	1,827,474	76,640	3,152,1				

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1926—CONTINUED

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating income (or loss)	Net after rents, 1925.	Net after rents, 1926.
		Freight	Passenger	Total	Way and structures	Maintenance of equip-ment	Traffic					
Seaboard Air Line.....	Nov. 4,001	\$4,180,527	\$821,130	\$5,001,657	\$844,439	\$2,029,581	\$2,073,146	73.5	\$1,454,258	\$1,201,225	\$845,446	\$1,102,125
.....	11 mos.	44,559,213	11,102,625	55,661,838	8,186,412	20,299,581	22,485,993	73.8	15,990,546	12,864,984	10,732,966	9,656,065
Southern Ry.	Nov. 6,797	9,975,663	2,108,246	12,083,909	1,739,169	2,114,821	2,743,308	68.0	4,186,894	3,264,226	3,118,479	3,079,540
.....	11 mos.	103,634,944	27,700,288	131,335,232	19,783,211	24,543,527	28,800,035	69.3	41,717,133	34,422,590	32,867,077	31,874,864
Alabama Great Southern.....	Nov. 318	654,176	133,562	787,738	141,353	175,690	20,534	73.5	229,497	151,384	171,323	284,953
.....	11 mos.	7,318,994	1,809,170	9,128,164	1,439,520	1,814,856	234,276	70.2	2,901,558	2,200,181	2,419,841	2,552,777
Cin., New Orleans & Tex. Pacific.....	Nov. 338	1,419,002	306,510	1,725,512	443,590	392,982	54,527	81.9	332,179	239,350	213,167	737,823
.....	11 mos.	16,349,067	3,884,905	20,233,972	3,169,599	4,066,440	479,754	68.4	6,788,199	5,427,859	5,346,260	6,005,691
Georgia Southern & Florida.....	Nov. 401	315,119	117,849	432,968	84,608	92,634	124,226	85.4	68,674	50,894	28,108	105,668
.....	11 mos.	4,167,433	1,665,663	5,833,096	1,003,449	1,008,119	1,824,226	76.2	1,494,241	1,175,233	784,074	1,223,876
New Orleans & Northeastern.....	Nov. 207	443,853	75,607	519,460	76,370	87,592	11,508	59.8	222,640	177,748	141,984	137,622
.....	11 mos.	4,536,384	891,827	5,428,211	755,177	836,582	117,583	62.8	2,167,410	1,535,077	1,192,401	1,593,117
Northern Alabama.....	Nov. 110	128,964	8,144	137,108	26,521	52,119	2,174	53.6	64,559	58,273	32,005	27,180
.....	11 mos.	1,228,530	94,767	1,323,297	265,601	53,165	23,072	58.9	556,388	492,863	289,138	251,815
Southern Pacific.....	Nov. 8,927	12,683,905	3,048,913	15,732,818	2,028,673	2,511,690	285,082	65.1	6,037,175	4,457,852	4,240,184	4,301,794
.....	11 mos.	141,754,588	38,249,601	179,994,189	27,402,035	31,193,432	3,938,750	68.2	62,914,854	46,464,876	43,245,613	37,120,117
Atlantic Steamship Lines.....	Nov. ...	911,723	34,649	946,372	19,168	170,214	20,564	82.5	191,990	184,611	184,715	138,316
.....	11 mos.	9,347,193	506,384	9,853,577	187,224	2,067,519	7,123,173	86.3	1,374,637	1,483,570	1,492,731	68,732
Galveston, Harrisburg & S. Antonio.....	Nov. 2,104	2,104,943	375,531	2,480,474	485,296	474,535	63,148	80.5	523,366	388,160	284,620	524,732
.....	11 mos.	21,129,953	4,815,940	25,945,893	4,784,922	5,495,391	9,927,451	79.9	5,617,056	4,319,431	3,295,632	3,329,088
Houston & Texas Central.....	Nov. 900	1,039,694	223,668	1,263,362	204,516	210,627	31,404	66.3	464,942	349,112	316,614	382,664
.....	11 mos.	9,544,427	2,336,757	11,881,184	2,226,116	2,621,945	324,282	76.4	3,064,863	2,293,549	2,018,270	1,830,075
Houston East & West Texas.....	Nov. 191	262,927	34,445	297,372	48,748	48,748	4,577	67.6	102,221	83,908	54,915	70,112
.....	11 mos.	2,476,823	401,993	2,878,816	498,094	556,467	44,729	68.9	941,981	766,149	573,325	514,420
Louisiana Western.....	Nov. 207	266,768	66,763	333,531	36,144	56,669	10,873	66.7	119,340	91,447	83,474	61,914
.....	11 mos.	2,428,071	852,586	3,280,657	467,936	684,331	172,559	76.4	832,728	550,893	477,837	569,990
Morgan's L. & T. R. & S. Co. Nov. 400	596,481	109,895	774,665	107,748	163,844	25,709	353,653	89.1	83,478	16,960	1,756	99,993
.....	11 mos.	5,395,766	1,384,660	6,780,426	1,658,855	1,736,604	262,266	93.7	401,551	452,553	706,438	1,628,217
Texas & New Orleans.....	Nov. 560	680,587	135,660	816,247	130,331	189,661	17,799	84.0	140,812	109,741	67,148	32,212
.....	11 mos.	7,131,356	1,677,019	8,808,375	2,041,108	2,814,998	339,091	83.5	1,544,402	1,168,082	768,584	1,432,558
Spokane, Portland & Seattle.....	Nov. 554	610,220	94,723	704,943	84,055	98,982	10,811	56.6	311,391	240,485	229,746	278,195
.....	11 mos.	6,059,353	1,351,077	7,410,430	1,163,196	1,052,498	121,551	61.2	3,101,061	2,212,451	2,088,233	1,652,590
Tennessee Central.....	Nov. 296	228,563	26,317	254,880	55,165	40,222	8,620	76.3	56,174	48,338	32,993	28,761
.....	11 mos.	2,524,397	333,139	2,857,536	619,659	473,940	87,987	75.1	691,541	545,082	386,173	361,372
Terminal Railroad Ass'n. of St. L. Nov. 55	610,220	94,723	704,943	84,055	98,982	10,811	10,811	74.1	297,631	263,174	263,174	31,172
.....	11 mos.	6,059,353	1,351,077	7,410,430	1,163,196	1,052,498	121,551	61.2	3,101,061	2,212,451	2,088,233	1,652,590
Toledo, Peoria & Western.....	Nov. 248	122,732	10,892	133,624	36,235	22,358	5,959	96.2	5,465	5,465	23	1,600
.....	11 mos.	1,084,438	183,656	1,268,094	314,937	283,468	34,576	101.1	144,894	144,894	144,894	144,894
Trinity & Brazos Valley.....	Nov. 367	345,855	9,590	355,445	81,562	39,063	5,506	67.6	118,242	110,535	71,111	58,761
.....	11 mos.	2,311,461	110,075	2,421,536	672,684	495,909	52,703	92.9	151,477	166,607	225,453	390,074
Utah & Delaware.....	Nov. 128	43,215	4,465	47,680	10,978	10,978	1,244	95.7	3,231	2,519	—	1,865
.....	11 mos.	525,488	268,318	793,806	179,021	179,021	18,378	97.1	144,894	144,894	144,894	144,894
Union Railroad of Penna.....	Nov. 45	.....	.....	.....	.....	.....	.....	97.1	2,559,074	2,092,516	2,781,590	2,657,942
.....	11 mos.	.....	.....	.....	.....	.....	.....	97.1	2,559,074	2,092,516	2,781,590	2,657,942
Union Pacific.....	Nov. 3,713	7,858,962	1,440,531	9,300,493	830,296	1,909,189	195,189	61.5	3,785,080	2,975,712	2,635,809	3,274,685
.....	11 mos.	81,204,004	14,933,882	96,137,886	12,437,935	21,076,705	1,968,658	65.0	36,803,635	28,539,765	25,318,297	26,802,834
Oregon Short Line.....	Nov. 2,537	2,501,059	296,435	2,797,494	334,094	468,918	54,637	61.1	1,110,839	788,370	688,992	1,051,063
.....	11 mos.	27,054,666	4,092,281	31,146,947	5,393,119	5,561,525	571,368	68.9	10,458,444	7,535,175	6,562,123	5,792,145
Oregon, Wash. R. R. & Nav. Co. Nov. 2,237	212,671	272,281	2,598,554	3,070,835	372,515	372,515	69,044	68.7	812,928	605,528	494,916	233,241
.....	11 mos.	2,287,137	3,642,096	5,929,233	4,062,651	4,062,651	801,080	71.1	7,661,492	5,900,028	4,336,334	1,836,201
Los Angeles & Salt Lake.....	Nov. 1,208	1,375,202	333,526	1,708,728	361,884	361,884	84,325	78.4	411,742	270,852	172,582	110,675
.....	11 mos.	15,769,423	4,590,157	20,359,580	4,187,879	4,187,879	807,598	77.8	4,991,544	3,525,786	2,442,560	2,191,146
St. Joseph & Grand Island.....	Nov. 258	351,093	14,459	365,552	45,421	45,421	9,830	71.4	80,871	67,913	54,581	113,921
.....	11 mos.	2,651,449	176,684	2,828,133	670,405	500,778	33,017	71.6	86,197	639,903	457,489	552,610
Utah.....	Nov. 111	1,474,759	1,112	1,475,871	287,768	391,184	4,435	59.9	477,722	370,737	341,810	405,365
.....	11 mos.	14,759,591	1,112	14,760,703	2,877,768	3,911,503	43,576	61.2	1,178,639	1,093,476	1,071,632	667,655
Virginian.....	Nov. 545	19,405,050	615,426	20,020,476	2,355,099	4,044,514	147,547	52.6	10,409,239	8,865,376	9,765,359	5,841,185
Wabash.....	Nov. 2,524	4,953,922	691,125	5,645,047	1,076,246	1,707,549	170,591	66.9	2,406,133	1,705,462	1,454,138	1,071,310
.....	11 mos.	52,527,381	8,433,111	60,960,492	9,267,446	11,402,166	1,733,538	71.6	17,365,913	14,216,639	11,241,115	10,733,282
Western Maryland.....	Nov. 804	2,563,783	38,517	2,602,300	208,952	687,299	33,262	67.1	886,151	770,151	647,880	364,597
.....	11 mos.	21,349,164	521,467	21,870,631	5,435,151	4,000,807	643,363	69.0	7,006,403	6,041,403	5,882,602	4,394,745
Western Pacific.....	Nov. 1,042	1,024,319	78,433	1,102,752	1,184,600	203,682	37,446	71.3	3,040,522	2,221,029	305,909	396,632
.....	11 mos.	12,098,060	1,761,011	13,859,071	2,121,487	2,121,487	423,857	69.5	4,581,920	3,391,420	4,155,854	3,915,592
Wheeling & Lake Erie.....	Nov. 511	1,622,589	32,928	1,655,517	386,227	386,227	42,682	73.8	451,045	322,360	342,366	420,109
.....	11 mos.	17,845,287	416,908	18,262,195	2,881,498	4,400,359	564,052	70.5	5,739,864	4,140,474	4,218,003	4,068,692

News of the Week

(Continued from page 257)

gain made by the railroads has all been in the freight traffic and this gain has been general, though not evenly distributed, the gain in traffic for the entire United States being about 7 per cent, while the gain in the northwestern region was 2.5 per cent."

P. R. R. Christmas Parties

The large chorus and the white-clad players shown in the accompanying illustration are employees of the Pennsylvania Railroad, representing twelve divisions and the Pittsburgh general office; with the Pitcairn shop band. The scene is the "Christmas Sing" given by these men at Syria Mosque, Pittsburgh, Pa., on Thursday evening, December 23. The scenery was got up by L. B. Sisson, editor of the Pennsylvania News.

The evening of December 23 was the occasion of Christmas parties of Pennsylvania employees at 38 points on the system, practically all division headquarters participating. What may be called the primary meeting was that at the Metropolitan Opera House, Philadelphia, where President W. W. Atterbury made the principal address, which was broadcast by radio throughout the territory of the Penn-

to passengers are reported as slight.

The mercury at the time of the collision stood at about 8 degrees below zero but the atmosphere is said to have been quite foggy. The engineman of the fourth section was found sitting upright on his seat-box and it is said that he had run past caution and stop indications of automatic signals, and also that the flagman of the third section had thrown off a fusee, some distance back. The tender of the fourth section was thrown cross-wise of the track but no other wheels appear to have left the rails. The club car in the fourth section, next to the locomotive, was wrecked but in this car there were no passengers. The rear car of the third section, an observation car, was crushed for a length of 20 ft.

Passengers from these trains arriving in New York City contributed the sum of \$450 for the benefit of the widow of the engineman who was killed. These contributions consisted mainly of the rebates which the passengers had received from the railroad because of the late arrival of the train.

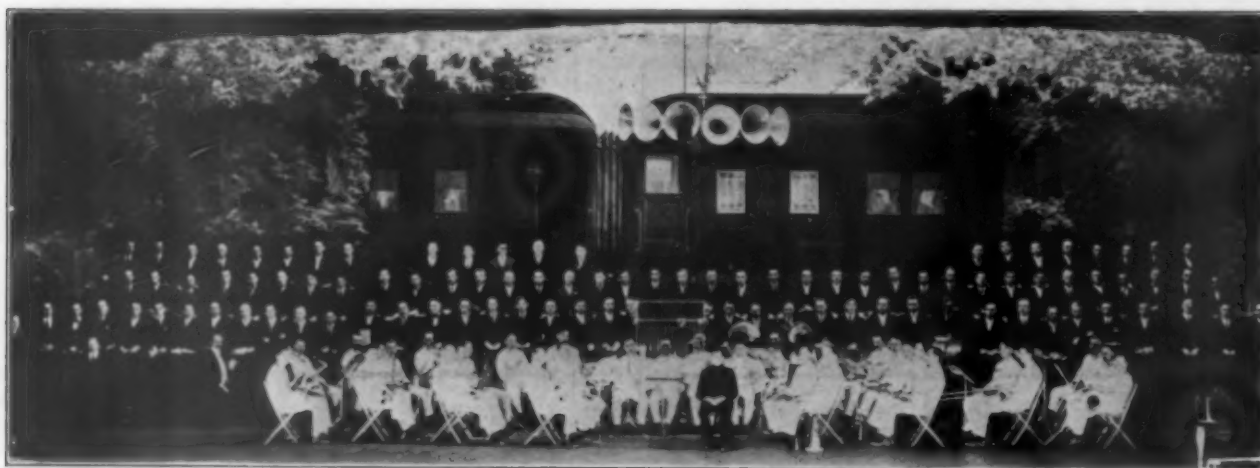
The Central of Georgia's Annual Efficiency Meeting

J. J. Pelley, president of the Central of Georgia, in his latest newspaper campaign, tells the readers of the local newspapers of Georgia and Alabama about the increase

are given public recognition, but the meeting is no 'mutual admiration' gathering. The meeting aims to build for the future rather than to glorify the past. No matter how good the record, a better one is made the goal. We are trying to improve our service to the public by every means in our power. The increased efficiency and loyalty resulting from these meetings will justify the belief that the time, study and money expended in holding them are all well spent."

Forged Tickets Accepted

The second successful attempt to forge tickets recently discovered has come to the attention of the Railway Ticket Protective Bureau. The first attempt occurred during December when a fraudulent skeleton coupon ticket purporting to be issued by the Lehigh Valley was accepted for transportation on the Erie from Binghamton, N. Y., to Griffith, Ind. The ticket was printed on light blue-green plain paper with a faint water mark and the printing, which was typographically poor, was from ordinary type such as is used in any local printer's shop. The number of the ticket on its face was imprinted by a rubber stamp with red ink. The agent's selling stamp on the back of the ticket read, "L. V. R. R., Marcy, Pa.," with the date of sale in the center. The coupon or coupons could be



"Christmas Sing" by Pennsylvania Employees at Pittsburgh, Pennsylvania

sylvania system. It is estimated that more than 50,000 persons—employees and their families—attended these gatherings and that over 200,000 members of the Pennsylvania "family" heard General Atterbury either directly or by radio communication.

Collision of Fast Trains at Savannah, N. Y.

On the morning of Sunday, January 9, about 3:25, the eastbound Twentieth Century Limited of the New York Central, third section, which had been stopped for the purpose of renewing the electric bulb in the headlight was run into at the rear by the fourth section of the same train, causing the death of the engineman of the latter, the scalding of the fireman and the injury of a number of passengers; but the injuries

in efficiency which has been accomplished in the railroad world during the last few years; and thanks the shippers, traffic clubs and others for the co-operation which has aided the railroads in their efforts at self-improvement. Continuing Mr. Pelley says: "The Central of Georgia has always considered the human element one of the most important factors in railroad operation. The annual efficiency meeting, when employees from all over the system gather at some central point to review past performances and make plans for better records, will be held on January 18 and 19, at Macon, Ga. Several hundred of the road's eleven thousand employees will assemble there for the two days' sessions; the annual inventory of this company's human assets. Officers and employees who have made outstanding records for efficiency and loyalty

made over any line and were so routed that the coupon, after being punched by the conductor, would be left in the hands of the holder, and the contract portion of the ticket would never reach the auditing department. An "L" punch was used to cancel the dates.

Another forged ticket of the identical typographical set-up, composition, handwriting and date stamp, with the exception of the name of the issuing line, which has been changed from Lehigh Valley to Union Pacific, has now been brought to the attention of the Protective Bureau. The dating stamp imprint implied that the ticket was originally issued by the Union Pacific at Apex, Mont., which, however, is not a reporting station and has no tickets for sale. The coupon portion of this ticket was made to read by way of the Minneapolis,

St. Paul & Sault Ste. Marie and was routed from Portal, N. D., to Portage, Wis. It is inferred that the reason for routing the coupon in this manner was to enable the use of the ticket as far as Stevens Point, the junction point to Portage, and to prevent its appearance in the auditor's collection. This plan, however, failed, as the conductor out of Portal issued a train check from St. Paul to Portage, and took up the spurious ticket. The train check issued for this ticket from St. Paul to Portage was not presented for passage.

Reading Exhibits Automatic Train Control

On the Atlantic City Railroad, Reading System, near Winslow Junction, N. J., 25 miles from Philadelphia, on January 6, the Reading Company gave demonstrations of the Union 3-speed continuous automatic induction train control which has now been in use on all trains of that line since April 1, 1925.

Under the guidance of E. D. Osterhout, passenger traffic manager, and other officers of the road, a large number of newspaper men and others were taken by a special train from Camden, N. J., (the Philadelphia terminus) and various stops and other operations were carried out for the benefit

division equipped with automatic train control is 57, and 68,088 trains have been run with automatic train control in service, without a failure—meaning, of course, dangerous failure. These trains traveled 2,781,530 miles. The medium-speed limit is 40 miles an hour and the low-speed 20 miles an hour.

The company's expenditures for the installation and perfection of this system have aggregated upwards of \$750,000, equal to about \$13,500 per mile of road.

The report of the I. C. C. on this installation was abstracted in the *Railway Age* of April 24, 1926, page 1146. The continuous system of the Union Switch & Signal Company on the Union Pacific was described in the *Railway Age* of July 11, 1925, page 97, this system, however, being two-speed whereas the system on the Reading is three-speed; and the Union intermittent automatic train stop in the issue of May 15, 1926, page 1317.

Briefs Filed in Connection with St. Paul Investigation

O. W. Dynes, as attorney for the Chicago, Milwaukee & St. Paul, has filed with the Interstate Commerce Commission a brief in connection with the commission's investigation of the affairs of that company,

"We feel that it cannot be reasonably doubted that the causes of the receivership are found in the percentage of increase in cost to the railway company of labor, materials, supplies and taxes since the pre-war period not being equalized by corresponding increases in transportation rates; in the low level of freight rates in Western Trunk Line territory; in the marked decrease in the flow of immigrant settlers into the Northwest; in the lack of buying power in the agricultural districts served by the carrier due to deflation of farm values, crop failures and bank failures; in the effect of motor vehicle competition; in the letting down of import, export and trans-continental domestic tonnage, and in the fact that these conditions fell upon this property when about 28 per cent of its mileage was still new and not fully developed and the further fact that its geographical location and its operations, both as a transcontinental and a Western Trunk Line carrier, caused it to be affected by more of the untoward conditions alluded to than was any other one carrier. These were conditions which in their combined effect caused the transition from the continuous prosperity of the pre-war period to the continuing deficits of the post-war period and thus reduced the credit of the St. Paul to a point where its refunding securities could not be marketed to meet and retire maturities without a reorganization of its capital structure."



Locomotive Equipped with Union Continuous Automatic Train Control

of the visitors. Prior to the departure from Camden, P. S. Lewis, superintendent, gave the newspaper men a short lecture, with blackboard illustrations, to acquaint them with some of the main principles of the system, duplicates of the cab indicator lights and gages being set up in the car next behind the locomotive.

The principal tests were one near Clementon to show the behavior of the automatic stop when the engineman kept hands off, as though he were dead, and one near Winslow Junction when the speed of the train was brought up to a rate above 85 miles an hour and automatic application of the brakes took place, bringing the train to a stop, the apparatus being adjusted to prevent any speed higher than 85 m.p.h. This is the maximum limit on the Atlantic City line. This line is 55½ miles long, with few curves.

The number of locomotives on this

asserting that the record taken by the commission "clearly establishes that there has been no corruption, no dishonesty, no private profiteering, no misapplication of funds, no breach of trust, no neglect of opportunity and no lack of earnest and sustained effort to serve the best interests of the property and the public."

Referring to the forthcoming report of the commission, he says it will be the "first impartial and the first authentic report the general public will have," and that it will be of tremendous importance to the reorganized railway because "its future prosperity is very largely dependent upon the respect, esteem and confidence with which it is to be regarded by those who logically would be its patrons or who would logically give to it a fair share of their competitive business."

In discussing the causes of the receivership of the company the brief says in part:

Southeastern Trainmen and Conductors Taking Strike Vote

Members of the Brotherhood of Railroad Trainmen and the Order of Railway Conductors on the southeastern railroads, except the Southern, are taking a strike vote to reinforce their negotiations for an increase in wages, although the Board of Mediation is still endeavoring to bring about an adjustment. The Southern is not involved because it has a separate agreement with the organizations.

The wage demands were originally presented to the roads early last year and conferences between representatives of the organizations and of the railroads were begun in Washington on December 15. In lieu of the original request for an advance of approximately 19 per cent in wages the labor leaders asked for the application of the recent award made by a board of arbitration for the conductors and trainmen of the eastern roads, providing for an increase of 7½ per cent. The railroad conference committee countered with a request for some changes in rules and later proposed arbitration. This was declined by the brotherhoods and they also declined to join in a request for the services of the Board of Mediation, although saying that they had no objection to the railways making the request. After some conferences with members of the Board of Mediation the managers were notified that the "tentative" proposal to accept the eastern award was withdrawn and that if a strike followed "It would probably cost them much more than the eastern award."

The strike vote is returnable January 20. The Southeastern Conference Committee, representing the railroads, has issued a

statement saying that while the heads of the labor organizations have advised the public that a strike vote does not necessarily imply that a strike will follow, "all those familiar with matters of this kind know that when a vote in favor of a strike has been taken it creates a serious situation by adding a new and threatening complication." The committee says it has been at all times and still is "entirely willing and desires to comply fully with all the provisions of the recently enacted railway labor act, and to submit the matters in controversy to the arbitration procedure provided by that act."

Referring to a statement by L. E. Shepard in the newspapers that when the strike vote is completed a further conference will be asked with the committee representing the roads, the committee says:

"When such conference is held the committee representing the roads will enter it with a sincere hope that the controversy can be settled by reason rather than by force; and that if no amicable settlement can be reached through negotiations between the committees, the orderly processes provided by the present law will be utilized in preference to a return to the era of force."

The Pennsylvania Roll of Honor

Charles O. Fulmer, a toolmaker of Indianapolis, Ind., retired on pension on January 1, after 56 years, 8 months of service with the Pennsylvania Railroad, has received an engraved certificate, a facsimile of which is shown herewith, reduced in size, marking the date of his retirement and the length of his service. The certi-

ficat this time with more than 50 years' service to their credit are Edward Flanagan, track foreman; Joseph W. Fleming, Jr., painter; and Robert Trimble, assistant chief engineer of the general office, Philadelphia.

Proposed Branch Line Construction in Canada

The branch-line construction programs of the Canadian Pacific and the Canadian National have been made public just previous to the reassembling of the Canadian Parliament in February when legislation for approval of both will be submitted to Parliament. That of the Canadian Pacific will be presented in separate bills and be dealt with by the standing committee on railways, canals and telegraph lines, while the Canadian National program will be dealt with by the special committee on national railways and shipping.

Only one branch line will be undertaken by the Canadian National in the east, a 20-mile extension of the Lake St. John line in northeastern Quebec. The remainder of the program will be distributed in Alberta and Saskatchewan, as follows:

From Ashmont, Alberta, into the Beaver River country;

A link between St. Paul de Metis, Alberta, and the Turtleford, Sask., line;

Continuation of the work on the branch running in an easterly direction from Turtleford and, possibly, connecting it with Shelbrook, Sask.;

A short line from Weyburn to Radville, Sask.;

A branch line running in an easterly direction from Ridgedale, Sask.

cent additional allowed for unforeseen demands. Legislation for construction of branch lines to link up present railheads will also be an important item in the program of the Quebec Legislature which will open on January 11.

E. W. Beatty Sees Danger in Wage Increases, Rate Reductions

Demands for wage increases and applications for freight rate reductions, all presented in the last few weeks, make the financial problems of the Canadian railways more serious than ever, and suggest the advisability of providing specific protection for earnings such as those in the rate making provisions of the United States transportation act, according to E. W. Beatty, president of the Canadian Pacific, addressing the Ontario Commercial Travellers' Association at London, Ontario.

"Your railways are not prosperous and have not been prosperous since the war ended," he said. "It is true that they have improved their position, the Canadian National Railways having substantially reduced their deficits and the Canadian Pacific showing in 1926 a larger margin of safety after charges than in any year since 1917. We all hoped that this progress would continue, that the railways would not only keep step with any forward movement, but in addition extend their facilities without exhausting borrowings in order to make an even greater contribution to the country's prosperity.

"Two things have intervened," Mr. Beatty continued, "to make us apprehensive that this prospect will not be as good as we hoped. The first is the numerous applications for increases in wages, which, if granted, will add many millions to the payrolls of the companies, and the second, applications for decreased rates which, if conceded, will take almost an equivalent number of millions from the company's earnings.

"Let me indicate to you," said the president, "the course which must be followed and is being followed. No railway officer will deny the right of railway labor to fair wages, but neither can he concede that labor rates should inevitably be determined by those in the United States, where living conditions are different and where the earnings of the roads average two and a half times per mile more than those of the Canadian roads. To this position we must adhere. I cannot, with propriety, deal with the merits or demerits of rate matters, now the subject of enquiry before the Railway Commission, but I can indicate to you something of the railways' needs. The Canadian Pacific is the oldest and strongest system in Canada. It is financially solvent in every way and during the last eight years its average yearly earnings were 3.99 per cent. on the money actually invested in the property. In the United States the companies are protected in that their aggregate rates may give them a return of five and three-quarters per cent on their valuation, fixed by the Interstate Commerce Commission, but here in Canada we have only one protection, namely, the statutory provisions that the rates shall be reasonable."

THE PENNSYLVANIA RAILROAD COMPANY



This Certifies that

Charles O. Fulmer

Tool Maker

Indianapolis Division

has been relieved of Active Duty after 56 8/10 years of service,
and that his name is enrolled on

THE ROLL OF HONOR.

Philadelphia, the 1st day of January 1927

W. A. Atkinson
President

ificate is signed by the president of the company, and similar ones have been given to the other 85 employees who are retiring this month; certificates are also to be given to all living pensioners, as fast as they can be prepared. The keystone on the certificates is red and the letters on its face are gilt. Other pensioners retiring at

There will be a number of small branches in the mining areas of Alberta, but no decision has yet been reached as to these.

The aggregate cost of this program is not expected to exceed \$6,000,000, while the final cost of the 1924 program was \$20,702,300, that sum including the cost authorized in the schedules and the 15 per

Traffic

The Interstate Commerce Commission has assigned its proceeding of investigation of the rules for car-hire settlement for hearing on March 8 at Washington, before W. P. Bartel, director of its Bureau of Service.

The Milwaukee Traffic Club will hold its 22nd annual dinner on January 19. R. H. Aishton, president of the American Railway Association, and Dean Ralph E. Heilman, of the School of Commerce of Northwestern University, will make addresses.

The Union Pacific, in conjunction with the Tonopah & Tidewater, is planning the inauguration of Pullman service from points along the Union Pacific to Death Valley, Calif. The Tonopah & Tidewater will handle the cars between Crucero, Calif., and Death Valley.

The Florida Railroad Commission has chosen A. S. Wells chairman in place of R. Hudson Burr whose term as commissioner has expired. Mr. Burr's place on the board is taken by R. L. Eaton. The commission as now organized consists of Messrs. Wells, Eaton and Matthews.

The Chicago & North Western, in conjunction with the Litchfield & Madison, has inaugurated scheduled daily freight service between East St. Louis, Ill., and the territory reached by the Chicago & North Western. This service includes second morning delivery to the Twin Cities, Milwaukee, Wis., and the Fox River Valley.

In the City of Atlanta, Ga., there are, according to a statement published by the Chamber of Commerce of that city, 42 off-line railroad offices; that is to say, freight or ticket offices of railroads which do not touch Atlanta, and the number of persons employed at these offices is 276. Shippers who have traffic managers of their own number 49.

The Interstate Commerce Commission is to give a further hearing on the application of the Northern Pacific, the Great Northern and the Oregon-Washington Railroad & Navigation Company for authority to establish passenger train service between Seattle and Tacoma, Wash., and Portland, Oregon, with a "pool train."

Representative Denison, of Illinois, has introduced in Congress (H. R. 15,606) a bill to regulate interstate commerce by motor vehicles operating as common carriers on the public highways. The bill was prepared by the bus division of the American Automobile Association and was submitted for the record of the Interstate Commerce Commission in connection with its recent hearings on the subject of motor vehicle transportation.

William Church Osborn, counsel for the Northwestern Security-Holders Fair Return Committee, has filed a brief with the

Interstate Commerce Commission in connection with its investigation of the affairs of the Chicago, Milwaukee & St. Paul, urging that the opinion to be rendered by the commission of the causes of "the St. Paul failure" shall "clearly point to the low rates as the principal cause and shall make a definite finding to that end."

Premier G. H. Ferguson of Ontario announced in Toronto that an agreement has been reached between the Canadian National and the Ontario government whereby all freight traffic for Rouyn, the new gold area in northwestern Quebec, that materializes west of Kingston will be handled over the Temiskaming & Northern Ontario via Cochrane, and freight business originating east of Kingston will be routed via Quebec City to O'Brien then south to its destination.

Demanding that the Canadian Pacific and Canadian National be compelled to put into effect the lower rates on grain and flour westbound to Vancouver and to remove the alleged discrimination in grain and flour eastbound to Fort William and Port Arthur counsel appeared this week for the provinces of British Columbia, Alberta and Saskatchewan and asked the federal government to do what they declared that the Dominion Railway Board had refused to do. The hearing which was in the form of an appeal from the Railway Board on questions of fact occupied the federal cabinet for five hours on Monday of this week. Judgment was reserved.

The Twin City Women's Traffic Club was organized on November 2 at Minneapolis, Minn., by women of St. Paul and Minneapolis. Officers elected are: President, Mrs. Mynoma De Groff, traffic manager of Reinhard Bros., Minneapolis; vice-president, Mrs. Sarah O. Seamer, traffic manager of the American Hoist & Derrick Company, St. Paul, Minn.; treasurer, Mrs. K. Brooke, traffic manager of the F. G. Leslie Paper Company, St. Paul; secretary, Miss Emily Knutson, of the Wheeler Brokerage Company, Minneapolis, and publicity secretary, Miss Marie O'Brien, of the White Oil Company, St. Paul. The purpose of the club is to unite all women of the Twin Cities engaged either exclusively or partially in traffic duties of commercial establishments, as well as those connected with railways.

The Transportation Committee of the Chicago Association of Commerce which has intervened in the hearing before the Interstate Commerce Commission scheduled for January 21 on the extension of the operations of the Inland Waterways Corporation on the Mississippi River to and including St. Paul, Minn., and Minneapolis, is circularizing the territory adjacent to Chicago for the purpose of finding out the degree to which shippers will make use of this service. The questions asked are: (1) Whether the shipper would be able to use this service, assuming that

the through rates will be approximately 20 per cent less than the all-rail rates, with sailings between Dubuque and the Twin Cities every five days; (2) The commodities which they would forward by way of this route; and (3) The approximate annual tonnage of such commodities.

The Canadian Freight Association has applied to the Board of Railway commissioners of Canada for a revision of all freight tariffs providing for free or reduced rate transportation of attendants of livestock. The request is to amend the Canadian freight classification cancelling the carriers' requirements that the owner or his agent must accompany shipments of livestock when the distance is more than 150 miles, and to cancel the regulation providing for the free transportation of attendants in charge of carload shipments of livestock and half-rate transportation for attendants in charge of less-than-carload shipments. The association also asks that the uniform livestock contract be amended to eliminate any reference to carrying attendants in charge of livestock at less than full passenger fare, and that all tariffs that contain a provision that attendants accompanying shipments of livestock will be carried free or at reduced transportation, also be amended. In addition, it asks for the cancellation of the provision in all tariffs providing for the return of attendants who have accompanied stock, at one-half of the first-class passenger fare rate.

Missouri Pacific Fruit and Poultry Train

The Missouri Pacific recently operated a fruit and poultry exhibit train on the White River division from Newport, Ark., to Carthage, Mo., to show the farmers the value of apple and other fruit crops in the present system of farming, as well as to introduce improved methods of raising poultry. The train consisted of a business car, a baggage car carrying nursery stock and a car containing fruit and poultry exhibits.

Rates on Grain and Products to Be Investigated

The Interstate Commerce Commission has announced an investigation of freight rates on grain and grain products within the western district and for export as Part 7 of its general rate structure investigation, No. 17,000, under the Hoch-Smith resolution. There are pending before the commission several formal complaints assailing the rates on grain and products in the western district and the Corporation Commission of Oklahoma has requested a general investigation of such rates between points in Texas, Oklahoma, Kansas, Missouri, Nebraska and Iowa, including the intrastate rates within those states. Various carriers have also filed an application seeking an investigation of the rates between points in the principal western grain states. Therefore the commission has concluded to assign for hearing with the complaints No. 17,000 in so far as it covers the rates between points within the western district and the state of Illinois;

rates from the western district and Illinois when for export; and ex-lake rates for export. In order to perfect plans for the preparation and presentation of data with a view to avoiding duplication, a preliminary conference will be held at Kansas City on January 20 by representatives of the commission with representatives of state commissions, shippers and carriers. Times and places for hearing will be announced later and a proposed report will be issued.

Amesbury's Auto-Bodies; Five Thousand Carloads

The city of Amesbury, Mass., prior to the advent of the automobile age, had 15 or more carriage factories that made buggies and other carriages which were well-known for their excellence throughout the country. In 1890, a single Amesbury con-

who shall steal, embezzle or convert to his own use or fraudulently dispose of or put in circulation any evidence of passenger transportation.

Fluctuations in Price of Oats Not Due to Freight Rates

Fluctuations in farm prices of oats are very irregular and frequently are different for the same kind and grade at different points in the same general territory having the same or practically the same freight rate to market. This is shown by a study just completed by the Bureau of Railway Economics as to the range in farm prices for the 1925 crop in this country and the relationship to transportation costs.

"The wide range in farm prices," said the study, "was in marked contrast to the stability of the freight rates, which re-



Amesbury, Mass., on the Boston & Maine

Before the Automobile Era.—Tyler Switch in the Foreground.

cern shipped 4,000 carriage bodies. Soon after this, the business began to decline; but the manufacturers turned their attention to the new field, and this same firm, in the year 1925, made and shipped 40,000 automobile bodies. The total shipments of automobile bodies from Amesbury in 1925, as reported by the Boston & Maine, amounted to over 5,000 carloads.

The Boston & Maine Employees' magazine for November, reporting these facts, prints also the accompanying picture, showing a typical scene in the Amesbury yard in the olden days.

Bill to Prevent Misuse of Tickets

Senator Goff of West Virginia has introduced in the Senate a bill, S.4990, to amend the Elkins act with relation to passenger fares and tickets. It provides penalties of fine and imprisonment for demanding, collecting, receiving or paying any passenger fare less than the published tariff rate; for the forging, alteration or counterfeiting of passenger tickets or passes or signatures thereon; and for the fraudulent or willful neglect, by a railroad employee, to cancel or return to the proper officer or agent any coupon, ticket, pass or other evidence of passenger transportation, with intent to permit the same to be used in fraud of any common carrier. The bill would also apply to any railroad employee

maintained almost unchanged during the period covered. No relationship is found between freight rates on oats and fluctuations in the prices paid to the farmer. In fact, the spread in farm prices during each crop season of the years 1923, 1924 and 1925 was often greater than the total freight charge to market."

Freight Rate on "Money Pulp"

A freight rate of 38 cents per 100 lb. from Washington, D. C., to Windsor, Conn., for carload shipments of the macerated currency, or "money pulp," sold by the Treasury Department, is the subject of a proposed report to the Interstate Commerce Commission by Examiner O. L. Mohundro, recommending a finding that the rate is reasonable. The annual production of this macerated currency, the report says, ranges from 2,000 to 3,000 tons, and it is sold to one purchaser under contract and shipped in bales of 250 pounds. The Stephens Paper Mills complained, contending that the commodity is a "very low grade pulp" with 65 per cent of its weight in the form of moisture, and that it should be accorded a rate no higher than commodity rates applying generally on wood pulp in official classification territory. On this basis it asked for a rate of 19 cents for the distance of about 375 miles. The value is said to be \$22 a ton.

Cotton Growers Ask Separate Hearing

Cotton growers' co-operative associations in eleven states have filed with the Interstate Commerce Commission a motion for a separate hearing and determination upon their complaints asking a 20 per cent reduction in all interstate freight rates on cotton, which the commission had ordered combined for hearing with its general rate structure investigation and certain other complaints involving cotton rates. Accompanying the motion is a brief in support of it, stating that to consolidate all the cases would bring in issues not involved in the complaints of the growers' associations, which they say are "the only complaints before the commission which have for their sole purpose a reduction of at least 20 per cent in all interstate freight rates for the benefit of the entire cotton-producing section of the nation, without raising any question of geographical discrimination or preference," and that this "clean-cut issue" should not be involved or combined with complaints by other classes or groups.

Florida Rate Decision Protested

The Florida East Coast, in a petition filed with the Interstate Commerce Commission, asks for further hearings and a reconsideration of the commission's findings in its Southern freight rate investigation case. The company states that the commission's findings as to the rates to and from Florida would seriously reduce its revenues, and that "the case should not be finally disposed of by the commission in the absence of full consideration of new conditions that have arisen within recent periods."

The commission has announced that representatives of carriers, shippers or other parties to the proceeding who desire to comment on the petitions filed by the Seaboard Air Line, the Atlantic Coast Line and the Florida East Coast for further hearing on the commission's findings concerning rates to and from points in Florida, prior to action by the commission, may do so by filing statements in writing on or before January 28.

Proposed Consolidation of Railroad Marine Service in New York

Co-ordination of the operations of the tugs and lighters in the railroad freight service in New York harbor, referred to in the *Railway Age* of January 8, in connection with a report made by the Port of New York Authority, is to be put in practice in a part of the harbor about February 1, according to statements made by the Erie. It is said—but also denied—that all of the roads which have floating equipment in New York have joined in the agreement to pool the service where practicable.

The beginning to be made on February 1 is in the movement of freight from the terminals on the New Jersey side of the harbor to the docks on the Brooklyn shore, south of the Gowanus Canal.

It is announced that the Erie will, on February 1, resume the operation of its tug boats and lighters in New York harbor

terminating the contract under which, since 1920, this service has been done for the railroad by the Phoenix Transit Company.

Mid-West Shippers' Advisory Board Meeting

Continued prosperity during the first three months of 1927 in the territory of the Mid-West Shippers' Advisory Board was predicted at the board's meeting on January 12 at Chicago. In the forecast of the various commodity committees decreases of business activity were anticipated in a few lines, but most industries forecast business at least equal to the first quarter of 1926, while others reported a probable increase of as high as 25 per cent over the corresponding months of 1926. The dairy products committee reported that the movement of Iowa butter in the next three months would be about equal to that in the same period last year, while the Wisconsin butter movement would show a 10 per cent decrease. The lumber products business in the next three months was estimated at from 80 to 85 per cent of that of the first quarter last year. For the movement of sand, gravel and stone the estimated car requirements in the first quarter of this year, as compared with the same months in 1926, were set at 90 per cent for Illinois, 100 per cent for Indiana and Wisconsin, and 105 per cent for Iowa, the average for the mid-west territory being 95 per cent.

The general outlook for the agricultural implement industry was said to be fair, and the cement outlook for 1927 was reported as very good. The wool committee reported that the wool industry in the mid-west is at a practical standstill. The movement has been light during the last three months, but it is anticipated that the next three months will see a great increase in the movement to the east.

No estimate was made as to the probable coal movement in the next three months, as it will be largely controlled by the negotiations between the mine operators and the United Mine Workers of America for a working agreement to become effective April 1. If an agreement is reached at the joint meeting in February, coal production during the next quarter in mid-west territory will be below the corresponding months of 1926. If the joint meeting adjourns without agreement, however, production will exceed that of the first quarter last year by about 10 per cent.

It was estimated that the movement of sheep and lambs will be definitely above that of the first quarter of last year, but that hog shipments will show a decrease of from three to five per cent, and cattle shipments a decrease of from two to three per cent. The report of the livestock committee also called attention to problems that may develop from the fact that in certain months a very large proportion of the cattle shipments is sent to market for arrival on Monday. In October, 43 to 45 per cent of the cattle receipts at seven principal markets arrived on Monday. In this period receipts were 18 per cent on Tuesday, about 18 per cent on Wednesday, 12 to 13 per cent on Thursday, 4 to 5 per cent on Friday and 2 per cent on Saturday. Some livestock producers were of the opinion that this situation creates an important price problem.

Foreign

Progress in Electrification in France New Construction Planned for South Australia

The Paris-Orleans Railway on December 22 began the electrical operation of its main line from Paris south to Vierzon, a distance of 127½ miles, which is the longest section of electrified line so far in service in France. It is planned to operate express passenger trains over this section in two hours.

Proposed Railway Development in Turkey

A total of 200,000,000 Turkish pounds will be expended by the government for railway construction port development and hydro-electric enterprises, according to a bill just passed by the National Assembly in Turkey. Bonds to this amount will be issued having as security revenue from the tobacco, match and spirits monopoly.

Further Electrification of Southern Railway (England)

The Southern Railway in furtherance of its electrification program in the London suburban area has awarded a contract to the Metropolitan-Vickers Electric Company for the supply of electrical equipment for 232 motor passenger cars and 210 trailers, according to the Times (London). The value of the contract is placed at over £600,000. Direct current at 600 volts will be used.

Armistice Car to Return to Compiègne Forest

The passenger car in which the armistice ending the world war was signed and which, since the war ended, has been exposed to the weather at the Invalides in Paris is to be removed to the Forest of Compiègne where the armistice was signed. According to the Times (London) an unnamed American has provided a fund to erect a shelter for the car and to pay the wages of a caretaker.

Berlin to Tokyo via Siberia for \$154.70

For the first time since 1914 through railroad tickets will be sold on May 15, 1927, from Berlin to Tokyo, Peking, and Shanghai, provided the home governments ratify the work of their delegates in Berlin, according to Assistant Trade Commissioner William E. Nash, at Berlin. A ticket second class from Berlin to Tokyo will cost 650 marks, exclusive of sleeper. The actual distance from Germany to Japan is 7,500 miles, and the time required will be 11 days to Peking and 12 days to Tokyo. Travelers will have the option of going to Moscow via Riga or via Warsaw. In Moscow there will be a change of trains, and baggage will be checked through to destination.

A comprehensive program of railway construction is proposed in South Australia during 1927, according to a report to the Department of Commerce from Assistant Trade Commissioner Julian B. Foster, Melbourne. Surveys for the North-South Railway from Oodnadatta to Alice Springs were expected to be completed by the end of 1926, and operations on the line were to commence in January, 1927. It is proposed to construct the first 25 miles by departmental labor, and tenders will be called for the work beyond M. P. 25 early in 1927. The proposed railway from Port Augusta to Red Hill will also be undertaken at the beginning of 1927, when a bill for appropriations for the work will be submitted to Parliament.

International Sleeping Car Company's Fiftieth Birthday

The Compagnie Internationale des Wagons-Lits celebrated the fiftieth anniversary of its formation at a banquet in Brussels, Belgium, on December 4, presided over by M. Maurice Despret, chairman of the company.

Among those present were the members of the diplomatic corps, the Belgian government and some 200 others. M. Despret announced that the company would mark the occasion by a gift of 2,000,000f. to the superannuation fund of its employees. In the afternoon the members of the board were received by the King, who bestowed decorations upon several of their number. The company's capital, which was originally 4,000,000f., now stands at 115,000,000f. More than 2,000,000 passengers are carried by the company's sleeping cars each year, in the services which it provides all over Europe.

Italian Railways Improve

According to the report of the Administration of the Italian State Railways for the fiscal year 1925-26, the movement of passengers showed an increase of about 6 per cent and goods traffic of 2.71 per cent in the tonnage loaded, says the Times (London). The distance covered daily by passenger trains, thanks to the opening of new lines, rose from 203,000 to 221,000 kilometres, thus reaching pre-war intensity.

Despite the increase of traffic and services rendered, the average number of persons employed decreased, compared with the previous year, from 174,600 to 171,900. The amount of rolling stock has decreased slightly owing to the scrapping of unserviceable engines and cars, but new orders have been placed with Italian firms for 78 locomotives, 110 passenger cars and 3,260 freight cars, while the purchase of another 215 locomotives, 200 passenger cars, 150 baggage cars, and 2,800 freight cars has been decided upon. The year 1924-25 had already shown a net surplus of 176,000,000l.

In 1925-26 this surplus reached 378,000,000L., representing the difference between receipts totalling 5,067,000,000L. and expenses 4,689,000,000L. Receipts have increased by 765,000,000L. Expenses have increased by 563,000,000L., that is in smaller proportion than receipts. Important electrification work has been completed, together with improvements of lines, stations, workshops, and warehouses.

Electrification Discussed in Hungary

A proposal by an English financial group to undertake the electrification of that part of the Hungarian State Railways running from Budapest to Esztergom on the Vienna route, 29 miles from Budapest, has been given favorable consideration by the government, according to Consul-General Bowman at Budapest. It is estimated that 55 electric locomotives would be required for the new service at a cost of 300,000 gold crowns each, or a total of 16,500,000 gold crowns. The additional equipment and generating plant are to cost 260,000,000,000 paper crowns. (The paper crown in 1925 had an average exchange value of 0.0014 cent.) The terms of the proposed contract provide that preference shall be given to Hungarian industrial products in installing the new equipment.

Should the plans be carried to a successful conclusion, it is expected that work will be begun early in 1927, and that after completion work would be undertaken on the electrification of the railway line from Budapest to Hatvan, 43 miles.

Japan's Electrification Program

The chief of the electrical bureau of the Railway Office, Tokyo, has announced some of the plans for electrifying certain sections of the railways in Japan, states a report to the Department of Commerce from Trade Commissioner J. H. Ehlers, Tokyo. It is planned to electrify the sections between Kozu, in Kanagawa prefecture, and Numadzu, in Shizuoka prefecture; between Kokubunji, in Tokyo prefecture, and Kofu, in Yamanashi prefecture; and between Otsu, in Shiga prefecture, and Akashi, in Hyogo prefecture.

The electrification of the Otsu-Akashi line will be started in 1929 and completed in 1932. The total expenditure on this line will be Yen 13,000,000, it is said. The Kozu-Numadzu electrification will also be started in 1929. In order to meet the requirements for electrification in the Kwanto section of the country, five electric power stations will be established.

Although ultimately it is planned to use electric locomotives for both passenger and freight service, until the general financial conditions improve considerably, electric locomotives will be used only for passenger traffic. Owing to the unsatisfactory general financial condition, it is reported the work will be spread out over a period of about nine years instead of two years, as originally planned.

It is planned to build a great power station at Shinanogawa, in Niigata prefecture, the estimate for the construction of which has been increased from Yen 36,218,000 to Yen 58,545,000.

German and Czechoslovak Producers Join European Rail Manufacturers Association

German rail producers have joined the European Rail Manufacturers Association accepting the terms of preferential treatment insisted upon by Great Britain for her colonies, according to cabled advices from Commercial Attache Chester Lloyd Jones, Paris, to the Department of Commerce. The Czechoslovak producers also signed the agreement at the same meeting, obtaining a 4 per cent basis of participation. This brings the participation basis total up to 104 per cent and leaves the percentages accorded the earlier signatories the same as before this addition to their number. Rail prices have not changed as yet as a result of this action. It is also reported that an English commission is studying the possibility of adherence to the European Steel Entente.

The export quota of 1,000,000 tons, which has been determined upon as the basis for this association will, however, be increased by reason of the 4 per cent awarded to Czechoslovakia to 1,040,000 tons. It is understood that the present basis of participation (with tonnage of exports in 1925 in parenthesis) are as follows: Belgium and Luxemburg, 11 and 7 per cent respectively (a total of 168,332 gross tons); France 19.5 per cent (237,002 tons); Germany 19.5 per cent (288,272 tons); and the United Kingdom 43.0 per cent (217,196 tons). It is further understood that the share of the United States is included in the British quota.

Railway Construction Authorized in Spain

Construction work on a number of railway projects in different regions of Spain, together with the filling of orders for rolling stock, has been definitely ordered by a recent ministerial decree, according to a report from Commercial Attache Charles H. Cunningham, Madrid, to the Department of Commerce.

In Coruna province, northwestern Spain, immediate construction has been ordered for a 43 kilometer branch connecting Ferrol with Betanzos on the Zamora-Orense-Coruna railway. This branch, the only State-owned railway in the system, will provide rail transportation between Ferrol, the base of a naval arsenal, and the seaport of Coruna just to the south, via Betanzos.

In the Andalusian region, southern Spain, construction has been authorized on a 160-kilometer line between Baeza, in Jaen province, and Alcazar, in Albacete province. This new line, to follow the course of the Guadalquivir river, will constitute the first section of the projected Baeza-Utiel Railway, which will unite the Andalusian region with the Mediterranean coast at Valencia without the necessity of passing through Madrid. The Baeza-Utiel line will be complementary to the projected Utiel-Teruel-Lerida line in northeastern Spain and will constitute a part of the secondary services of the state, connecting the Andalusian region with the Catalonian region.

Equipment and Supplies

Locomotives

THE OLIVER IRON MINING COMPANY is inquiring for from 8 to 12 eight-wheel switching locomotives.

THE ATCHISON, TOPEKA & SANTA FE has ordered 10 Santa Fe type oil-burning locomotives from the Baldwin Locomotive Works.

THE MOBILE & OHIO has ordered five six-wheel switching locomotives from the American Locomotive Company. These locomotives will have 21 by 28-in. cylinders and a total weight in working order of 165,000 pounds. Inquiry for this equipment was reported in the *Railway Age* on January 1.

Freight Cars

THE NORTHERN PACIFIC is inquiring for 300 gondola cars.

THE WABASH is inquiring for 1,000 automobile box cars of 40 tons' capacity.

THE PACIFIC GREAT EASTERN is inquiring for 10 steel frame stock cars of 40 tons' capacity.

THE HIGH POINT, THOMASVILLE & DENTON is inquiring for from 10 to 15 all steel box cars of 50 tons' capacity.

JOHN MORRELL & COMPANY, Chicago, has ordered 100 refrigerator cars from the American Car & Foundry Company.

THE MISSOURI PACIFIC has ordered 100 ballast cars of 50 tons' capacity from the American Car & Foundry Company.

THE CANADIAN NATIONAL is inquiring for 1,000 automobile box cars of 40 tons' capacity and 100 ballast cars of 50 tons' capacity.

THE NORTH WESTERN REFRIGERATOR LINE COMPANY, Chicago, has ordered 1,020 refrigerator cars from the American Car & Foundry Company.

THE CHICAGO, ROCK ISLAND & PACIFIC has ordered 250 hopper ballast cars from the Pressed Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of November 20.

THE MOBILE & OHIO has ordered 250 flat cars, 150 hopper cars and 200 gondola cars from the Chickasaw Shipbuilding Corporation. An order has also been given for 15 all steel air dump cars to the Koppel Industrial Car & Equipment Company. Inquiry for this equipment was reported in the *Railway Age* of December 25.

THE ATCHISON, TOPEKA & SANTA FE has ordered 500 box cars and 500 refrigerator cars from the Pullman Car & Manufacturing Corporation; 500 refrigera-

tor cars and 300 gondola cars from the American Car & Foundry Company; 500 box cars from the General American Car Company and 500 box cars from the Standard Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of December 11 and 18.

Passenger Cars

THE CANADIAN NATIONAL is inquiring for two combination mail and express cars and six baggage cars.

THE BALTIMORE & OHIO has ordered one combination passenger and baggage gas-electric rail motor car from the J. G. Brill Company.

THE CHICAGO, ROCK ISLAND & PACIFIC has ordered five dining cars and ten coaches from the Pullman Car & Manufacturing Corporation. Inquiry for this equipment was reported in the *Railway Age* of November 27.

THE MOBILE & OHIO has ordered two dual power plant combination mail, baggage and passenger gas-electric rail motor cars and one single power plant combination mail, baggage and passenger gas-electric rail motor car from the Electro-Motive Company.

THE MOBILE & OHIO has ordered six coaches from the Pullman Car & Manufacturing Corporation, six baggage cars and one combination passenger, baggage and mail car from the American Car & Foundry Company. Inquiry for this equipment was reported in the *Railway Age* of January 8.

Iron and Steel

THE ERIE has ordered 1,100 tons of structural steel for bridge work from the American Bridge Company.

THE DELAWARE, LACKAWANNA & WESTERN is inquiring for 3,800 tons of steel for its lift bridge over the Hackensack river in New Jersey.

THE CHICAGO & NORTH WESTERN has ordered 1,500 tons of structural steel for a freight depot at Proviso, Ill., from the American Bridge Company.

THE BALTIMORE & OHIO has ordered 2,000 tons of steel for various bridges from the McClintic-Marshall Company, and 1200 tons from the American Bridge Company.

THE NEW YORK, CHICAGO & ST. LOUIS has divided an order for 21,000 tons of rails among the Illinois Steel Company, the Bethlehem Steel Company and the Inland Steel Company.

THE MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE has divided an order for 8,000 tons of rail among the Illinois Steel Company, the Bethlehem Steel Company and the Inland Steel Company.

Machinery and Tools

THE BALTIMORE & OHIO has ordered a floor grinder from the Niles-Bement-Pond Company.

THE NORTHERN PACIFIC has ordered a 5-ft. radial drill from the Niles-Bement-Pond Company.

THE MISSOURI PACIFIC has ordered a 5-ft. semi-universal radial drill from the Niles-Bement-Pond Company.

THE NEW YORK CENTRAL has ordered a floor grinder and a 22-in. cold saw from the Niles-Bement-Pond Company.

THE NEW YORK RAPID TRANSIT COMPANY has ordered a 13-in. Pratt & Whitney lathe from the Niles-Bement-Pond Company.

THE NORFOLK & WESTERN has ordered a 6-in. vertical shaper, a 16-in. Pratt & Whitney lathe, a 90-in. locomotive journal turning lathe and a car wheel lathe, from the Niles-Bement-Pond Company.

THE CHICAGO, MILWAUKEE & ST. PAUL has been authorized by the Federal Court at Chicago to purchase one heavy duty motor driven draw cut shaper for use at Miles City, Mont.; one 54-in. motor driven boring mill for use at Deer Lodge, Mont., and two 24-in. motor driven engine lathes for use at Milwaukee, Wis.

Signaling

THE BALTIMORE & OHIO has ordered from the General Railway Signal Company 20 sets of intermittent inductive automatic train control apparatus for locomotives being built at the Baldwin Works.

THE CHICAGO & ALTON has placed an order with the National Safety Appliance Company for the automatic train control apparatus necessary to equip 24 additional locomotives for operation between Chicago and Bloomington, Ill. The order also includes 32 forestalling valves to complete the installation of the permissive feature planned.

THE NEW YORK, CHICAGO & ST. LOUIS has contracted with the Union Switch & Signal Company for the installation of interlocking at Cuyahoga river drawbridge, Cleveland, Ohio; the shore functions to be operated by an electric interlocking, model 14, with seven levers, and the bridge and rail locks to be operated by a Saxby & Farmer dwarf machine equipped with two levers.

THE DENVER & RIO GRANDE WESTERN has contracted with the General Railway Signal Company to furnish and install automatic block signals from Gypsum, Colo., 56 miles west of Tennessee Pass, westward to Palisade, Colo., 103 miles. Palisade is 12 miles east of Grand Junction. Color-light signals will be used and the arrangement will be the absolute permissive system.

Miscellaneous

THE CHICAGO, MILWAUKEE & ST. PAUL has been authorized by the Federal Court at Chicago to spend \$52,000 for the application of bypass valves on 136 locomotives and clasp brakes to replace single shoe brakes on 24 passenger cars.

Supply Trade

The Celotex Company is planning the construction of a plant at New Orleans, La., to cost approximately \$500,000.

W. J. Savage, railroad service engineer of the Anchor Packing Company, Chicago, has been promoted to assistant district manager.

Philip Robinson, manager of sales of the Gary Screw & Bolt Company, Chicago, has been elected vice-president and general manager of sales.

H. E. Passmore has been appointed manager of the Pittsburgh office of the McClave-Brooks Company, Scranton, Pa. The company recently removed its Cleveland office to Pittsburgh.

D. D. Grassick, formerly general inspector of car construction of the Atchison, Topeka & Santa Fe, has been appointed insulating engineer of the Insulite Company, Minneapolis, Minn.

Thomas R. Allen has been appointed assistant works manager of the American Brown Boveri Electric Corporation, Camden, N. J., effective January 7. Mr. Allen will have charge of all shipbuilding activities.

Lester B. Paterson has resigned his position with the American Locomotive Company, and is now connected with the Combustion Engineering Corporation as assistant production manager with office at 200 Madison avenue, New York City.

Robert K. Johnson has been appointed president of the Pyrotung Manufacturing Company, Chicago, to succeed W. R. Otis, resigned. Charles W. Mann has been appointed vice-president. Charles E. Pynchon, general manager, has resigned.

H. M. Sloan, as vice-president of the Buda, Company, Harvey, Ill., will have complete charge of all sales activities of the company, effective January 1. J. S. Dempsey has been appointed treasurer to assume the duties formerly handled by Mr. Sloan as treasurer.

The Air Reduction Company, Inc., has acquired through a long term lease from the Commercial Acetylene Supply Company, Inc., the plants and business of that company on the Pacific Coast. The two acetylene manufacturing plants taken over are located respectively at Berkeley and Los Angeles, Cal.

The Midland Pipe & Supply Company, Chicago, has been organized to handle pipe, valves and fittings, and has opened an office and warehouse at 4638 Roosevelt road. J. E. Walsh, formerly representative of Warren Corning & Co., has been made vice-president and E. P. Pieper, formerly controller of inventory of the Wheeling Steel Corporation, is secretary and treasurer.

Fred S. Doran has been appointed manager of the Cleveland plant of Joseph T. Ryerson & Son, Inc. This new warehouse plant of the Ryerson Company was bought from the Bourne-Fuller Company of Cleveland on January 3. Mr. Doran has been associated with Joseph T. Ryerson & Son for 21 years, first serving in the office. He traveled in the Wisconsin territory for five years, then in the Chicago City territory until he was made assistant to A. M. Mueller, general manager of sales.

The International General Electric Company, Inc., has acquired from its former selling agents for Colombia and Venezuela, Wesselhoeft & Poor, the business heretofore conducted by that firm in that territory. The International General Electric Company will continue and extend the activities of the firm whose sales contract obligations it has assumed and it will retain the several selling officers already established in Colombia and Venezuela. Robert Wesselhoeft and F. H. Poor will also be identified for a time with its operations.

At a meeting of the board of directors of American Car & Foundry Company on January 6, Dallas B. Pratt and F. F. Fitzpatrick were elected directors of the company. Mr. Pratt, a member of the firm of Maitland, Coppel & Company, succeeded Gerald L. Hoyt, deceased, who had been a director of the company since 1901. Mr. Fitzpatrick is president of the American Locomotive Company. Messrs. Pratt and Fitzpatrick were also elected directors of the American Car & Foundry Securities Corporation. At the same meeting of the American Car & Foundry Company, C. D. Terrell was elected vice-president, with headquarters at Chicago. At the time H. W. Wolff, vice-president, was transferred to New York and placed in charge of sales, he was succeeded in Chicago by Mr. Terrell, whose designation was that of assistant vice-president. L. W. Martin, formerly sales agent, has just been appointed assistant to vice-president, with headquarters at St. Louis, as heretofore.

December Locomotive Shipments

December shipments of railroad locomotives, from principal manufacturing plants, based on reports received by the Department of Commerce, totaled 185 locomotives,

as compared with 128 in November and 104 in December, 1925. Shipments for 1926 totaled 1,750 locomotives, as compared with 1,216 in 1925. The table at the bottom of the page gives the shipments and unfilled orders of locomotives for each month since December, 1925.

Trade Publications

RAILROAD LIGHTING EQUIPMENT.—The Pyle National Company, Chicago, has recently issued the third edition of its catalog No. 101 describing electrical accessories for locomotives, railway shops, round-houses and railway yards. The catalog contains 46 pages, measures 8½ by 11 in. in size and is profusely illustrated with photographs of the products manufactured by the company. Various types of head-light cases, reflectors, lenses, focusing devices, etc., are shown as well as different types of turbo-generators. Marker and classification lamps are included and one section of the book is devoted to flood-lighting. A large number of fittings for use in wiring locomotive cabs are also described and illustrated.

FLEXIBLE METALLIC CONNECTIONS.—The Vapor Car Heating Company, Inc., Chicago, has just issued Booklet No. 42, describing Vapor flexible metallic connections for use in train service and at terminals. The importance of providing for safe, satisfactory and economical metallic steam connections on locomotives and passenger cars, and in passenger yards is emphasized in the booklet, which also strongly recommends the use of two-inch steam heat connections on both locomotives and cars. This larger area through steam connections practically doubles their capacity, and, when changing engines at terminals, enables steam to be gotten through to the rear of long trains in about one-half the time required where the usual restricted couplings are used, thus, assuring sufficient steam at the rear for heating the last cars in long trains. This new booklet also gives the various sizes of Vapor flexible joints for use in passenger yards, enginehouses, stations, etc.

MANY PERSONS were killed and scores injured in a collision between two passenger trains 60 miles from Moscow on the night of January 7. The greatest casualties were among employees of the Russian Railways.

Construction

ATCHISON, TOPEKA & SANTA FE.—This company has authorized the construction of a three-story combined recreation center, apprentice school and fire station at Topeka, Kans.

BALTIMORE & OHIO.—A contract has been awarded to the Krebay Construction Company, Indianapolis, Ind., for the construction of a new freight house and driveway on the Cincinnati, Indianapolis & Western, at Indianapolis, Ind., estimated to cost about \$38,000.

BOSTON & ALBANY.—A contract has been awarded to the American Building Wrecking Company, Inc., Cambridge, Mass., for the demolition of a granite building at Springfield, Mass.

CANADIAN NATIONAL.—The city council of Vancouver, B. C., has passed a resolution ordering the immediate institution of court proceedings against the Canadian National for alleged failure of this company to proceed with the construction of a hotel and certain terminal improvements at Vancouver in accordance with an agreement reached in 1913. Under this agreement the city of Vancouver granted the Canadian National about 1,600 acres of land in return for the promise of this company to construct a hotel.

CHICAGO, MILWAUKEE & ST. PAUL.—The Federal Court at Chicago has authorized this company to drill a soft water well and to construct a 12-ft. by 24-ft. pump house, including pump and piping at Lavina, Mont., and to construct a hot water wash-out plant to serve a 35-stall roundhouse in Chicago at a total cost of \$53,400.

MISSOURI PACIFIC.—This line has been authorized to construct a branch line from a connection with its main line at Tioga, La., in a southeasterly direction for 3.9 miles. The main purpose of the extension is to serve the military camp, Camp Beauregard, at the southeast end of the new line. The estimated cost of construction is \$14,905.

NEW YORK CENTRAL.—A contract has been awarded to Stevenson & Cameron, Inc., New York, for work in connection with the construction of an automatic substation at Harmon, N. Y., at an approximate cost of \$55,000. A contract has been awarded to H. R. Beebe, Inc., Utica, N. Y., for work in connection with a bridge over Pocantico creek, Philipse Manor, N. Y., to cost approximately \$35,000. A contract for the replacement of roofs on power houses and switch houses at Glenwood, N. Y., and Port Morris, to cost approximately \$35,000, has been awarded to Klein & Kavanagh, New York. To the McHarg-Barton Company, New York, has been awarded a contract in connection with the construction of duct lines and splicing chambers between Spuyten Duyvil and Marble Hill, N. Y.; estimated cost,

Year and month	Shipments					Unfilled orders end of month				
	Total	Domestic		Foreign		Total	Domestic		Foreign	
		Steam	Electric	Steam	Electric		Steam	Electric	Steam	Electric
1925										
December	104	68	18	14	4	708	557	54	56	41
Total (year)	1,216	755	144	277	40	...	...	...	...	...
1926										
January	121	96	11	14	0	653	506	53	52	42
February	163	101	22	38	2	572	442	60	30	40
March	162	146	11	4	1	780	635	50	54	41
April	151	122	12	1	16	713	580	44	60	29
May	140	105	14	12	9	726	585	46	72	23
June	159	133	11	12	3	667	522	51	72	20
July	132	82	20	30	0	555	445	36	51	23
August	124	78	16	23	7	525	455	26	28	16
September	134	109	13	5	7	386	386	24	77	11
October	151	124	15	12	...	390	286	20	71	13
November	128	109	15	3	1	517	391	27	84	15
December	185	152	17	5	11	398	297	14	79	8
Total (year)	1,750	1,357	177	159	57	...	...	...	...	...

\$165,000. A contract has been awarded to the Edward J. Duffy Company, Inc., Weehawken, N. J., in connection with the extension of a substation at White Plains, N. Y., at an estimated cost of \$30,000.

NEW YORK CENTRAL.—The Public Service Commission of New York has ordered the elimination of 25 highway grade crossings in the city of Fulton, Oswego county, 24 miles north of Syracuse; some of them on the New York Central and some on the New York, Ontario & Western. A part of the crossings are designated for complete elimination, while at other places industrial tracks will be left in position, the whole improvement being made in connection with a relocation of main lines. A new joint passenger station is to be built at Oneida street, and the present passenger stations of the two roads are to be discontinued and the tracks connected with them removed. The two railroads are directed to prepare working plans, specifications and estimates. Certain suggested plans have already been informally approved by the city, the state and the railroad companies involved.

NEW YORK, ONTARIO & WESTERN.—See New York Central.

PENNSYLVANIA.—A contract has been awarded to the John F. Casey Company, Philadelphia, for the construction of coal handling facilities at Sodus Point, N. Y., to cost approximately \$300,000.

ST. LOUIS-SAN FRANCISCO.—Bids will be received until January 17 for the grading, bridging and trestle work on the new line of the Muscle Shoals, Birmingham & Pensacola between Aliceville, Ala., and Kimbrough, 93.5 miles.

ST. LOUIS-SAN FRANCISCO.—11½ miles of second track including 4 miles from Harvard, Ark., south, 2½ miles between Memphis, Tenn., and Yale, and 5 miles between Springfield, Mo., and Mulroy, have been authorized for construction this year at a cost of \$378,000. Improvement and enlargement of freight yards at Yale, Tenn., Birmingham, Ala., and West Tulsa, Okla., have been planned, with an expenditure of \$1,750,000. New mechanical facilities will be added at Yale at a cost of \$100,000. Authorization has been made for the construction of a \$75,000 passenger station at Pittsburg, Kan., a \$54,000 station at Holly Springs, Miss., and an \$18,000 station at Boynton, Okla. Other improvements in the budget include \$63,500 for new coaling stations, \$102,000 for water stations, \$61,360 for changes in grade and alinement and \$982,000, for improvement of bridges and trestles.

TOLEDO TERMINAL.—The Toledo Port commission has approved the plans of this company for the construction of a three-track bridge over the Maumee river at Toledo, Ohio, and has directed engineers of the railroad to work in conjunction with the city engineers in the development of a double-deck bridge, one deck to handle street traffic. This project is expected to involve an expenditure of more than \$1,000,000.

ATLANTA, BIRMINGHAM & COAST.—*New Company.*—Properties of the former Atlanta, Birmingham & Atlantic passed from the control of the receiver to possession of the new company, organized in the interest of the Atlantic Coast Line, at midnight, December 31, 1926. B. L. Bugg, receiver of the old company, has been elected president of the new.

ATLANTA, BIRMINGHAM & COAST.—*Securities Authorized.*—This company has been authorized by the Interstate Commerce Commission to issue \$5,180,344 preferred stock and 150,000 shares of common stock of no par value, the issuance of these securities being in connection with the reorganization plan and the acquisition of control of the former Atlanta, Birmingham & Atlantic by the Atlantic Coast Line. At the same time the Atlantic Coast Line has been granted authority to acquire all of the common stock and to assume obligation and liability, as guarantor, with respect to the new preferred stock, which is to pay 5 per cent dividends cumulative from January 1, 1928.

BEAUMONT, SOUR LAKE & WESTERN.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire and operate the Houston North Shore, an interurban electric railway under construction from Goose Creek to a point in the vicinity of Houston, Tex., 26 miles.

BUFFALO, ROCHESTER & PITTSBURGH.—*Control of Allegheny Terminal.*—The Interstate Commerce Commission has approved a lease by the Allegheny & Western of the Allegheny Terminal and an assignment of such lease to the Buffalo, Rochester & Pittsburgh. The Buffalo, Rochester & Pittsburgh leases the Allegheny & Western and the latter owns all the capital stock of the Terminal company which owns the terminals used by the Buffalo, Rochester & Pittsburgh at Pittsburgh, Pa.

GREAT NORTHERN.—*New Director.*—Vincent Astor has been elected a director.

GEORGIA & FLORIDA.—*Bonds Sold.*—Hayden, Stone & Co., and Harrison, Smith & Co. have sold \$4,136,000 first mortgage 20-year 6 per cent bonds, series A, at 98, to yield over 6.17 per cent. The bonds mature November 1, 1946, and are issued in connection with the reorganization of this property.

KANSAS CITY SOUTHERN.—*Oral Argument in Merger Application.*—The Interstate Commerce Commission has assigned for oral argument on February 17, before the entire commission, the application of the Kansas City Southern for authority to acquire control of the Missouri-Kansas-Texas and the application of the latter to acquire control of the St. Louis Southwestern.

MANISTEE & NORTHEASTERN.—*Reorganization Plan Approved.*—The Interstate

Commerce Commission has approved the plan of reorganization of the former Manistee & Northeastern Railroad Company under the new name of Manistee & Northeastern Railway Company. The road operates a line from Manistee, Mich., to Traverse City, 70.76 miles, with branches to Provost, 14.50 miles, to Onkama, 2.67 and another 2.50 miles. The road was placed in receivership December 24, 1918, and was sold at a receiver's sale on December 16, 1925. The new capitalization will consist of \$1,103,700 common capital stock which will be issued par for par for the former first mortgage 6 per cent bonds issued in 1909 of which \$333,333 was matured and not paid and the stock is to be held in a voting trust for a period of five years. The Manistee & Northeastern formerly leased the Leelanau Transportation Company's line between Hatch Crossing and Northport. Although the lease had expired, the receiver continued to operate the line but arrangements are not yet made for the operation of the line by the new company.

MOBILE & OHIO.—*Equipment Trust.*—This company has applied to the Interstate Commerce Commission for authority to assume obligation and liability in respect of \$1,450,000 of 4½ per cent equipment trust certificates which have been sold to the First National Bank of New York at 98.4891, the highest of 14 bids.

NEW CASTLE & OHIO RIVER.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Hanging Rock to New Castle, Ohio, 6 miles.

NEW YORK CENTRAL.—*Hearing on Lease Proposal.*—Hearings on the application of the New York Central for authority to lease the property of the Michigan Central and the Cleveland, Cincinnati, Chicago & St. Louis, which it already controls by stock ownership, were begun on January 11 before Director C. D. Mahaffie of the Interstate Commerce Commission's Bureau of Finance. The hearing also embraces the application of the Cleveland, Cincinnati, Chicago & St. Louis for authority to lease the lines of the Cincinnati Northern and the Evansville, Indianapolis & Terre Haute.

PERE MARQUETTE.—*Excess Income.*—The Interstate Commerce Commission has announced a hearing to be held at Washington on May 2 before Examiner Law in an inquiry as to whether this company has earned a net railway operating income in excess of 6 per cent.

READING.—*Proposed Lease of L. & N. E.*—Oral argument was heard by the Interstate Commerce Commission on January 7 on this company's application for authority to lease the Lehigh & New England for 999 years. The argument for the application was made by W. L. Kinter, general solicitor, while Henry Wolf Bikle, general attorney

of the Pennsylvania, presented an argument in opposition.

READING COMPANY.—*Coal Company Rights Exercised.*—Practically all of the 2,800,000 rights for Philadelphia & Reading Coal & Iron Corporation shares issued by the Reading Company to stockholders as part of the segregation plan had been turned in for conversion by the close of business January 3.

SAN ANTONIO SOUTHERN.—*Acquisition.*—The formal transfer of the properties of this company to the ownership of the Missouri Pacific, became effective January 1 following authorization by the Interstate Commerce Commission. The San Antonio Southern will be operated as a part of the San Antonio division of the Missouri Pacific lines.

WESTERN MARYLAND.—*Equipment Trust.*—Brown Brothers & Co. and Alex. Brown & Sons have offered \$1,260,000 4½ per cent equipment trust certificates, series E, maturing 1927 to 1941, inclusive, and priced to yield 4 per cent to 4.75 per cent according to maturities. The equipment includes 20 Decapod freight locomotives having a total approximate cost of \$1,670,000.

Dividends Declared

Nashville, Chattanooga & St. Louis.—3½ per cent, semi-annually, payable February 1 to holders of record January 22.

Pullman Company.—\$2, quarterly, payable February 15 to holders of record January 31.

Virginian.—Preferred, \$3, semi-annually, payable February 1 to holders of record January 21.

Average Price of Stocks and Bonds

	Jan. 11	Last week	Last year
Average price of 20 representative railway stocks.	102.99	102.23	96.93
Average price of 20 representative railway bonds.	97.73	97.51	94.69

Valuation Reports

Final or tentative valuation reports have been issued by the Interstate Commerce Commission finding the final value for rate-making purposes of the property owned and used for common-carrier purposes, as of the respective valuation dates, as follows:

FINAL REPORTS		
Bamburgh, Ehrhardt & Walterboro	\$27,615	1918
Fort Smith, Subiaco & Rock Island	130,442	1919
Kansas Southwestern	739,295	1916
Midland Continental	1,110,050	1917
Rio Grande, El Paso & Santa Fe	1,685,000	1916
Salina Northern	1,311,630	1919
Sheffield & Tionesta	442,975	1917
Tennessee, Kentucky & North-ern	*825	1918
	†195,000	
Warren, Johnsville & Saline River	159,450	1918
Warrenton	48,080	1918
TENTATIVE REPORTS		
Columbia, Newberry & Laurens	\$1,797,000	1918
Dexter & Northern	34,459	1919
Lansing Manufacturers	117,000	1916
Morristown & Erie	410,350	1918
New Bedford, Martha's Vineyard & Nantucket	325,000	1918
Northampton & Bath	325,000	1918

*Owned and used. †Used.

Railway Officers

Official Personnel Changes on the Atlanta, Birmingham & Coast

Pursuant to the reorganization of the Atlanta, Birmingham & Atlantic forming a new company, the Atlanta, Birmingham & Coast, the following officers were elected: **B. L. Bugg**, formerly receiver of the A. B. & A., is now president of the new road, with headquarters at Atlanta, Ga.; **Lyman Delano**, vice-president at Wilmington, N. C.; **J. L. Edwards**, formerly assistant to the receiver of the A. B. & A., now vice-president at Atlanta, Ga.; **H. L. Borden**, secretary and assistant treasurer at New York City; **F. D. Lemmon**, assistant secretary at New York; **A. V. B. Gilbert**, in addition to being purchasing agent, has also been elected assistant secretary at Atlanta, Ga.; **B. L. Bell**, assistant auditor at Atlanta, Ga.; **Brandon & Hynds**, general counsel at Atlanta, Ga.; **George B. Elliott**, advisory counsel, at Wilmington, N. C.; and **Dr. W. S. Goldsmith**, assistant chief surgeon at Atlanta, Ga. The other officers occupy the same positions on the new road as they occupied on the old one.

Executive

Arthur A. Murphy, who has been promoted to assistant to the president of the Union Pacific, with jurisdiction over the Oregon-Washington Railroad & Navigation Company and headquarters at Seattle, Wash., was born on February 8, 1886, at Portland, Ore. He attended the Portland High School and



Arthur A. Murphy

graduated from a law course at Stanford University, Palo Alto, Cal., in 1908, being admitted to the bar in Oregon in the same year. Mr. Murphy was appointed assistant district attorney at Portland in 1913 and upon the entry of the United States in the world war in 1917 he entered an officers' training

camp. He served as a first lieutenant in Company B, Three Hundred and Sixty-Second infantry, later receiving a commission as a captain. His connection with the Union Pacific began on August 1, 1919, when he was appointed as an attorney on the Oregon-Washington. On March 25, 1925, he was promoted to assistant general solicitor, with headquarters at Portland, a position he held until December 16 when he was promoted to assistant to the president. Mr. Murphy is department commander of the American Legion of Oregon for the year 1926-1927.

G. A. Austin has been appointed general superintendent of the Gainesville & Northwestern, with headquarters at Gainesville, Ga.

William R. Lence, assistant to the president of the Kansas City, Mexico & Orient, with headquarters at Wichita, Kan., has been appointed executive general agent of the Texas & Pacific, with headquarters at Dallas, Tex., effective February 1.

W. P. Weber has been elected president of the Quincy with headquarters at Lake Charles, La., succeeding **F. S. Murphy**. **John C. Saner** has been elected vice-president in charge of traffic with headquarters at Dallas, Tex., succeeding **W. Y. Stoddard**, who has been elected secretary, with headquarters at Quincy, Cal. **M. J. Ragley** has been elected treasurer with headquarters at Quincy, succeeding **M. A. Murphy**.

Leonard Hillis has been elected president of the Bastrop & Lake Providence, with headquarters at Peoria, Ill., succeeding **T. C. Whitmarsh** of St. Louis, Mo., appointed auditor. **J. H. Allen**, general manager, with headquarters at St. Louis, has also been elected vice-president. **Hiram Todd** has been appointed secretary and treasury, with headquarters at Peoria, succeeding **R. M. Morris** and **B. J. Altheimer**. **E. E. Eversull**, general freight agent, has been appointed assistant general manager, with headquarters at St. Louis and has been succeeded by **C. S. Chesbro**, assistant traffic manager, with headquarters at St. Louis.

Financial, Legal and Accounting

John Dickie, assistant treasurer of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, has been promoted to treasurer, with the same headquarters, succeeding **Archibald G. Loomis**, deceased.

P. S. Bickmore has been appointed secretary and assistant treasurer of the Tonopah & Goldfield with headquarters at Philadelphia, Pa. **H. F. Wood**, as-

assistant treasurer, with headquarters at Goldfield, Nev., has been promoted to treasurer with the same headquarters.

L. B. Butts, assistant auditor of freight receipts on the Illinois Central, with headquarters at Chicago, has been promoted to auditor of freight receipts, with the same headquarters, succeeding **J. F. Shepherd**, deceased. He has been succeeded by **F. W. Rice**, assistant to the auditor of freight receipts, with headquarters at Chicago.

Operating

A. A. Smith, assistant superintendent on the Manitoba district of the Canadian Pacific, with headquarters at Ignace, Ont., has been promoted to superintendent of the Lethbridge division on the Alberta district, with headquarters at Lethbridge, Alta., succeeding **J. L. Jamieson**, transferred.

G. H. Warfel, general roadmaster on the Union Pacific, with headquarters at Omaha, Neb., has been appointed acting assistant to the general manager, with supervision over all safety work and like matters, with the same headquarters, succeeding **W. L. Richards**, granted an extended leave of absence because of illness. **A. J. Herner** has been appointed lubrication engineer, with headquarters at Omaha, Neb.

Alfred H. Wright, who has been appointed assistant to the general superintendent and marine manager of the New York Central, with headquarters at New York City, was born on May 17, 1878, at Ticonderoga, N. Y., and was educated in the Ticonderoga High School and the Albany Business College. He entered railway service on November 30, 1900, as a yard clerk on the New York Central at Rotterdam Junction, N. Y. On July 12, 1903, he was transferred to the office of the trainmaster of the Adirondack division at Utica, N. Y., and on October 23, 1906, he was promoted to chief clerk in the assistant superintendent's office at Albany. Mr. Wright was transferred as chief clerk to the superintendent of the Adirondack division at Utica on March 1, 1910, and on January 8 of the following year became assistant trainmaster of the Mohawk division. In March of the same year he was transferred in the same capacity to the River division at Kingston, N. Y. He became trainmaster of that division at Weehawken, N. J., on Oct. 1, 1913, and assistant superintendent on April 1, 1923. On Dec. 16, 1924, he was appointed superintendent of the same division, with the same headquarters, which position he was holding at the time of his recent appointment as assistant to the general superintendent and marine manager.

Traffic

J. J. Collister, traffic manager of the Hannibal Connecting, with headquarters at Chicago, has been transferred to St. Louis, Mo.

K. G. Gottschaldt has been appointed assistant general freight agent on the Gulf, Mobile & Northern, with headquarters at Mobile, Ala.

W. J. Keller and **E. J. Dowie**, assistant general freight agents on the New York Central, with headquarters at Cleveland, Ohio, have been transferred to Chicago.

Claude H. Goodhue, supervisor of express traffic for the American Railway Express Company on the Western district of the Northern Pacific, who has been promoted to manager of mail, baggage and express on the Northern Pacific, with headquarters at St. Paul, Minn., entered railway service in 1896 in the offices of the Northern Express Company (then a subsidiary of the Northern Pacific) at Walla Walla, Wash. In 1902 he was promoted to chief clerk in the general office at Seattle, Wash., where he remained until



Claude H. Goodhue

1906 when he was transferred to Portland, Ore., as chief clerk to the superintendent in charge of the Western division. In 1918 Mr. Goodhue was assigned to the position of claim agent on the American Railway Express Company at Seattle, Wash. He then entered the operating department of this company and was appointed supervisor of express traffic for the Western district of the Northern Pacific in November, 1920, with headquarters at Seattle, a position he held until his appointment as manager of mail, baggage and express on the Northern Pacific, with headquarters at St. Paul.

R. S. Sneed, general agent on the Chicago & Illinois Midland, with headquarters at Chicago, has been promoted to assistant general freight agent, with the same headquarters.

W. H. Paxton, general freight agent of the Southern, with headquarters at Atlanta, Ga., has been appointed assistant freight traffic manager, with the same headquarters. **J. W. Bray**, assistant general freight agent, has been appointed general freight agent, with headquarters at Atlanta, succeeding Mr. Paxton.

H. D. York, chief clerk to the freight claim agent of the Kansas City Southern, with headquarters at Kansas City, Mo., has been promoted to freight claim agent, with the same headquarters, succeeding **Carl E. Bingham**, resigned to enter other service.

C. W. Brosius, general freight agent on the Texas & Pacific, with headquarters at New Orleans, La., has been appointed joint general freight agent of the Texas Pacific-Missouri Pacific Terminal Railroad of New Orleans, succeeding **A. P. Smirl**.

C. S. Edmonds, general freight and passenger agent of the Kansas, Oklahoma & Gulf and the Midland Valley, with headquarters at Muskogee, Okla., has been promoted to traffic manager, with the same headquarters. **J. W. Klein**, general freight and passenger agent on the Midland Valley, with headquarters at Tulsa, Okla., has been appointed general freight agent of that company and the Kansas, Oklahoma & Gulf. **H. S. Humphreys**, general agent of both companies, with headquarters at Muskogee, has been promoted to assistant general freight agent, with the same headquarters.

Engineering, Maintenance of Way and Signaling

Frank R. Layng, engineer of track of the Bessemer & Lake Erie, with headquarters at Greenville, Pa., has been promoted to assistant chief engineer, with the same headquarters, and the position of engineer of track has been



F. R. Layng

abolished. Mr. Layng was born on September 9, 1878, at Salem, Ohio, and was educated in the public and private schools of Allegheny City, and in the engineering department of the University of Pittsburgh. He entered railway service on October 1, 1897, and until December 1, 1898, was a rodman on the Buffalo & Allegheny division of the Pennsylvania. From the latter date until July 1, 1900, he was a draftsman on the same road, and then became draftsman on the Bessemer & Lake Erie, which position he held until November 1, 1902. From

November 1, 1902, until December 1, 1905, Mr. Layng was assistant engineer, and was then appointed engineer of bridges. On May 1, 1906, he was appointed engineer of track of the same road, which position he was holding at the time of his recent promotion to assistant chief engineer.

Richard Brooke has been appointed assistant engineer maintenance of way of the Chesapeake & Ohio, with headquarters at Richmond, Va.

F. R. Ramsey, chief engineer of the Clover Leaf district of the New York, Chicago & St. Louis, with headquarters at Frankfort, Ind., has been appointed district engineer in charge of the same district, with the same headquarters and the position of chief engineer of the Clover Leaf district has been abolished. The jurisdiction of **J. C. Wallace**, assistant chief engineer; of **G. H. Tinker**, bridge engineer, and of **F. S. Hales**, engineer of track, of the Nickel Plate and Lake Erie and Western district, with headquarters at Cleveland, has been extended to include the Clover Leaf district.

Mechanical

T. Devaney, master mechanic on the Clover Leaf district of the New York, Chicago & St. Louis, with headquarters at Frankfort, Ind., has been appointed superintendent of shops, with the same headquarters.

Lucius Seam has been appointed master mechanic in charge of the locomotive department, car shops and coal dock of the Copper Range, with headquarters at Houghton, Mich., succeeding **Gilbert Bisson**, resigned.

Purchases and Stores

C. L. McIlvaine has been appointed assistant to the stores manager of the Pennsylvania with headquarters at Philadelphia, succeeding **R. C. Harris**.

Montgomery Smith, who has been promoted to assistant to the general purchasing agent of the Pennsylvania, with headquarters at Philadelphia, Pa., was born on October 28, 1862, at Philadelphia, Pa., and was educated in the public schools of that city. He entered railway service on July 23, 1879, as a clerk in the office of the auditor of passenger receipts of the Pennsylvania. From August 22, 1879, until December 1, 1893, he was a clerk in the purchasing department, and on the latter date became lumber clerk, which position he held until February 1, 1896, when he became chief accountant. On June 1, 1900, he became chief clerk and on November 12, 1902, assistant to the purchasing agent. From June 15, 1905, until March 1, 1920, he was assistant purchasing agent at Philadelphia. This service was all with the Pennsylvania Railroad. On March 1, 1920, he became purchasing agent of the Eastern region of the Pennsylvania system, and on January 16, 1924, was promoted to purchasing agent of the Pennsylvania system, which

position he was holding at the time of his recent promotion to assistant to the general purchasing agent.

Chauncey B. Hall, who has been appointed stores manager of the Pennsylvania, with headquarters at Philadelphia, Pa., was born on March 7, 1875, at Baltimore, Md., and was educated in the public schools of that city and at Baltimore City College. He entered railway service on August 11, 1891, with the Northern Central (now a part of the Pennsylvania) as a messenger. He occupied various clerical positions until July 1, 1908, at which time he entered the purchasing department as a special inspector. On March 1, 1916, he was appointed sales agent, and in October of the following year, chief clerk in the purchasing department. On March 1, 1920, Mr. Hall became assistant to the purchasing agent, and in October of the same year, assistant to the general purchasing agent. He was appointed general storekeeper on February 1, 1926, which position he was holding at the time of his recent appointment as stores manager.

Obituary

Edward A. Drake, vice-president of the Panama Railroad, died at his home in New York City on January 5, at the age of 81.

James H. Baer, assistant freight claim agent of the Pennsylvania, with headquarters at Philadelphia, Pa., died on January 7, from acute indigestion.

C. H. Mitchell, freight traffic manager of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, died on January 6, at his home in Oakpark, Ill., after an illness of two days.

Ray F. Beaudry, superintendent of the Joliet division of the Elgin, Joliet & Eastern, died at his home in Joliet, Ill., on January 11, after he had been overcome by carbon monoxide gas while running the engine of his automobile in a closed garage.

Ernesto O. Llano, formerly general director of the National Railways of Mexico, died in his private car in St. Louis, Mo., on January 12, of pleurisy. Mr. Llano at the time of his death was head of the fuel department of the above company.

Fred K. Crosby, general freight agent of the Chicago, Rock Island & Pacific, died, after an illness of several weeks, on December 30 at St. Luke's Hospital, Chicago. He was born in 1881 at Chicago and entered railway service in 1899 as a clerk in the accounting department of the Rock Island. Later he was transferred to the freight traffic department where, after a period of service as a clerk, he was promoted to chief clerk. In May, 1914, Mr. Crosby was promoted to chief of the tariff bureau at Chicago, and two years later he was again promoted to assistant general freight agent, with the same headquarters. In August, 1925, he was pro-

moted to general freight agent at Chicago, a position he held continuously until the time of his death.

Edward M. Smart, assistant general counsel of the Chicago & Northwestern during 1917 and 1918, died at his home in Milwaukee, Wis., on January 7, following an illness of about six weeks. Mr. Smart was born on May 24, 1871, at Almond, Wis., graduating from the Evansville (Wis.) Seminary in 1887 and from the law department of the University of Wisconsin in 1894. The same year he began the practice of law at Merrill, Wis., where he remained until 1912 when he was appointed state attorney for the North Western, with headquarters at Milwaukee. On January 1, 1917, he was promoted to assistant general counsel, with headquarters at Chicago, resigning in 1919 to resume the private practice of law at Milwaukee, where at the time of his death he was a member of the law firm of Fawcett, Smart & Shea.

J. C. Patterson, a civil engineer of Philadelphia, died on January 6, after an illness of several months. Mr. Patterson was born in Germantown, in 1857, and attended Dr. Faires' Classical Institute and the Towne Scientific School of the University of Pennsylvania, from which he was graduated in 1878. He was a member of the Collins expedition sent from Philadelphia to build the Madeira-Mamore Railway in Brazil. On his return from South America, he was employed in various engineering capacities on the Reading, the Pennsylvania and several other roads and companies. He was also chief engineer of the Poughkeepsie Bridge, the Central New England & Western (now part of the Central New England) and the Pittsburgh & Eastern and was government engineer for Ecuador in the building of the railroad from Guayaquil to Quito.

Herbert P. Thrall, mail and express traffic manager of the Southern Pacific, died following an operation at San Francisco, Cal., on January 4. He was born on October 12, 1860, at Oshkosh, Wis., and entered railway service on November 1, 1879, as a brakeman on the Virginia & Truckee. He remained with this railroad until May, 1883, when he became a United States railway postal clerk and in Aug., 1890, he was promoted to United States postoffice inspector. Eight years later he was advanced to superintendent of the Pacific Coast division of the United States railway mail service. Mr. Thrall returned to railroad employment on December 1, 1904, as mail traffic manager of the Union Pacific and the Southern Pacific, and on January 1, 1907, his jurisdiction was extended to cover the Illinois Central and the Central of Georgia. In April, 1913, he was appointed mail traffic manager and inspector of transportation service of the Southern Pacific, and in April, 1921, he was promoted to mail and express traffic manager, a position he held continuously until the time of his death.

